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1987

# Census of Construction Industries

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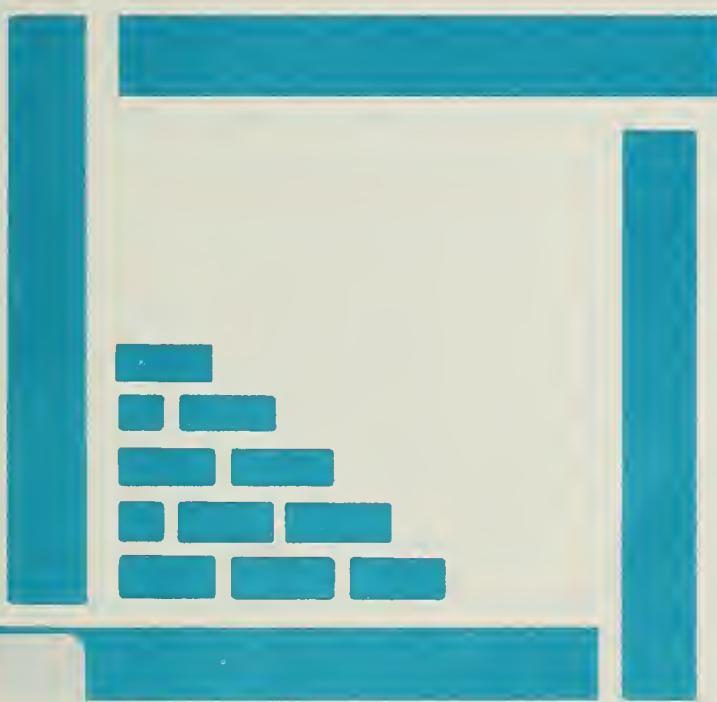
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INDUSTRY SERIES

## Land Subdividers and Developers, Except Cemeteries

Industry 6552

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## ACKNOWLEDGMENTS

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Many persons participated in the various activities of the 1987 Census of Construction Industries.

The overall planning and review of the census operations were performed by the staff of the Office of the Assistant Director for Economic and Agriculture Censuses.

This report was prepared in the Construction Statistics Division. **Barry A. Rappaport**, Assistant Division Chief for Industry Surveys, was responsible for the overall planning, management, and coordination of the census of construction industries. Planning and implementation were under the direction of **A. William Visnansky**, Chief, Census Operations Branch, with primary staff assistance by **Juliana Van Berkum**, **Barbara J. Hadden**, **Edward R. Glover**, **Susan L. Hostetter**, **Shirley M. Baker**, and **Carolyn J. Stone**. Under the direction of **Jesse Pollock**, **Edward K. Ricketts** and **Dennis K. Duke** developed the sampling plans and variance and estimation specifications.

Systems and procedures for mailout, receipt, correspondence, data input, industry classification, other clerical processing, administrative record processing, and quality control, along with the associated electronic computer programs, were developed in the Economic Surveys Division, **W. Joel Richardson**, Chief.

Mailout preparation and receipt operations, clerical and analytical review activities, data keying, and geocoding review were performed by the staff of the Data Preparation Division, **Joseph S. Harris**, Chief.

Geographic coding procedures and associated computer programs were developed by the staff of the Geography Division, **Robert W. Marx**, Chief.

The computer processing systems were developed and coordinated in the Economic Programming Division, **Barry M. Cohen**, Chief, and **H. Ray Dennis**, Assistant Chief. **Sarah W. Baumgardner**, Chief, Construction Census Branch, was responsible for the design and implementation of the computer systems. The computer programs were prepared under the supervision of **Barbara L. Lambert**, assisted by **Herbert Isham** of the Construction Statistics Division. **Linda M. Mersh** and **James Dallmann** assisted in establishing and maintaining the production control system.

Computer processing was performed in the Computer Services Division, **Marvin D. Raines**, Chief.

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Special acknowledgment is also due the many businesses whose cooperation has contributed to the publication of these data.

If you have any questions concerning the statistics in this report, call (301) 763-7546.

# 1987

# Census of

# Construction Industries

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CC87-I-27

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Industry 6552

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Issued January 1990



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## PURPOSE AND USES OF THE ECONOMIC CENSUSES

The economic censuses are the major source of facts about the structure and functioning of the Nation's economy. They provide essential information for government, business, industry, and the general public.

*Economic censuses furnish an important part of the framework for such composite measures as the gross national product, input-output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions.*

*Policy-making agencies of the Federal Government use the data, especially in monitoring economic activity and providing assistance to business.*

*State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.*

*Trade associations study trends in their own and competing industries, and keep their members informed of market changes.*

*Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.*

## AUTHORITY AND SCOPE

Title 13 of the United States Code (sections 131, 191, and 224) directs the Census Bureau to take the economic censuses every 5 years, covering years ending in 2 and 7. The 1987 Economic Censuses consist of the—

Census of Retail Trade  
Census of Wholesale Trade  
Census of Service Industries  
Census of Transportation  
Census of Manufactures  
Census of Mineral Industries  
Census of Construction Industries

Special programs also cover enterprise statistics and minority-owned and women-owned businesses. (The 1987 Census of Agriculture and 1987 Census of Governments are conducted separately.) The next economic censuses are scheduled to be taken in 1993 covering the year 1992.

## AVAILABILITY OF THE DATA

The results of each of the economic censuses are available in printed reports, for sale by the U.S. Government Printing Office, and on microfiche, computer tape, compact discs with read-only memory, and flexible diskettes, for sale by the Census Bureau. Order forms for all types of products are available on request from Customer Services, Census Bureau, Washington, DC 20233. A more complete description of publications being issued from this census is on the inside back cover of this document.

Census facts are also widely disseminated by trade associations, business journals, and newspapers. Volumes containing census statistics are available in most major public and college libraries. Finally, State Data Centers in every State and Business and Industry Data Centers in many States also supply economic census statistics.

## WHAT'S NEW IN 1987

Several changes have taken place for the 1987 censuses. Data will be reported on the basis of the newly revised Standard Industrial Classification (SIC) system with selected reports including "bridge tables," linking the old and new classification systems. A new set of metropolitan

areas has been adopted, and more detailed information will be available for businesses with no paid employees. For additional information on these changes, review the subsequent text.

One important change involves receipts of contractors and builders. Prior to 1987, the Census of Construction Industries collected receipts as the primary measure of construction activity. For 1987, the census collected the "value of construction work done" to better measure actual construction activity done during the year. Differences between the two concepts occur when work is done in one year and payment received either from the prior or in the succeeding year. In addition, receipts do not include work a contractor performs for its own account and use.

## HISTORICAL INFORMATION

The economic censuses have been taken together as an integrated program at 5-year intervals since 1967, and before that for 1963, 1958, and 1954. Prior to that time, the individual censuses were taken separately at varying intervals.

The economic censuses trace their beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for 1840 and subsequent censuses to include mining and some commercial activities. In 1902, Congress established a permanent Census Bureau and directed that a census of manufactures be taken every 5 years. The 1905 manufactures census was the first time a census was taken apart from the regular every-10-year population census.

The first census of business was taken in 1930, covering 1929. Initially it covered retail and wholesale trade, and construction industries, but it was broadened in 1933 to include some of the service trades.

The 1954 economic censuses were the first to be fully integrated—providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. These were the first censuses to be taken by mail, using lists of firms provided by the administrative records of other federal agencies. Since 1963, administrative records have also been used to provide basic statistics as well for very small firms, reducing or eliminating the need to send them census questionnaires. The Enterprise Statistics Program, which publishes combined data from the economic censuses, was made possible with the implementation of the integrated census program in 1954.

The range of industries covered in the economic censuses has continued to expand. The Census of Construction Industries began on a regular basis in 1967, and the scope of service industries was broadened in 1967, 1977, and 1987. The Census of Transportation began in 1963 as a set of surveys covering travel, transportation of commodities, and trucks. New for 1987 are publications reporting on business establishments engaged in several transportation industries, paralleling the data on establishments in

other sectors. This is part of a gradual expansion in coverage of industries previously subjected to government regulation. The Survey of Minority-Owned Business Enterprises was first conducted as a special project in 1969 and was incorporated into the economic censuses in 1972 along with the Survey of Women-Owned Businesses.

Economic censuses have also been taken in Puerto Rico since 1909, in the Virgin Islands and Guam since 1958, and in the Northern Mariana Islands since 1982.

Statistical reports from the 1982 and earlier censuses provide historical figures for the study of long-term time series, and are available in some large libraries. All of the census data published since 1967 are still available for sale on microfiche from the Census Bureau.

## AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

While the censuses provide complete enumerations every 5 years, there are many needs for more frequent data as well. The Census Bureau conducts a number of monthly, quarterly, and annual surveys, the results of which appear in publication series such as *Current Construction Reports* (building permits, housing starts, and value of new construction put in place), *Current Business-Reports* (retail and wholesale trade and service industries), the *Annual Survey of Manufactures*, *Current Industrial Reports*, and the *Quarterly Financial Report*. Most of these surveys, while providing more frequent observations, yield less kind-of-business and geographic detail than the censuses. The *County Business Patterns* program offers annual statistics on the number of establishments, employment, and payroll classified by industry within each county.

## SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1987 Economic Censuses and Related Statistics*. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1987 Economic Censuses*. Contact Customer Services for information on availability.

## CENSUS OF CONSTRUCTION INDUSTRIES—SCOPE AND CLASSIFICATION

The 1987 Census of Construction Industries covers all employer establishments (establishments with payroll) primarily engaged in contract construction, construction on their own account for sale, or in subdividing real property

into lots as defined in the 1987 Standard Industrial Classification (SIC) Manual.<sup>1</sup> This industrial classification system has been developed by experts on classification in government and private industry under the guidance of the Office of Management and Budget and is in general use among government agencies and among organizations outside the government.

**Contract construction**—The SIC manual defines construction in three broad types of activity that follow:

- 1. Building construction by general contractors or by operative builders**—General building contractors are primarily engaged in the construction of dwellings, office buildings, stores, farm buildings, and other building projects. Operative builders who build on their own account for sale are also included here. However, investment builders who build structures on their own account for rent are classified in Real Estate.
- 2. Heavy construction general contractors**—Heavy construction general contractors are primarily engaged in the construction of highways, bridges, pipelines, sewers and water lines, marine construction, power, and petro-chemical plants and other nonbuilding construction projects. Special trade contractors are classified in heavy construction if they are specifically engaged in the following activities: grading for highway and airport runways; guardrail construction; installation of highway signs; asphalt and concrete construction of roads, highways, streets and public sidewalks; trenching, cable laying; conduit construction; underwater rock removal; pipeline wrapping; or land clearing and leveling.
- 3. Construction by other special trade contractors**—These contractors include plumbers, painters, carpenters, electricians, brick layers, roofers, etc. For the most part, they perform their work at the site of construction, although they may also have shops where they perform work incidental to the job site.

General contractors in both the building and the heavy construction field usually assume responsibility for an entire construction project, but may subcontract to others all of the actual construction work or those portions of the project requiring special skills or equipment. Special trade contractors may work for general contractors, for other subcontractors, or may work directly for the owner of the property.

In addition to the industries classified in the SIC manual as Construction, this census also includes one industry

classified in the Real Estate area, SIC 6552, Land Subdividers and Developers, Except Cemeteries. These establishments are engaged in subdividing real property into lots and in developing it for sale on their own account.

Each establishment receiving a questionnaire was requested to report the percent of total dollar value of business done for each kind-of-business activity engaged in during 1987. This information was used for the computer assignment of appropriate industry classifications. During this work, various tests were also made using other data reported on the questionnaire. The proportion of construction work to total business was checked to verify that the establishment was primarily in construction. Also taken into consideration were the types of structures worked on during the year and the extent of work undertaken for other contractors.

Construction establishments often engage in various construction activities. It is necessary, however, to assign a single industry code to the establishment based on its major activity. Therefore, the statistics shown for an industry reflect not only the primary activity of the establishments in the industry, but also their secondary activities. The industry reports, however, do present data on the extent of secondary activities.

A revised edition of the SIC Manual was issued in 1987. Minor modifications were made to three industries in the construction sector: SIC 1611, Highway and Street Construction Contractors, Except Elevated Highways; SIC 1629, Heavy Construction Contractors, N.E.C.; and SIC 1771, Concrete Work Special Trade Contractors. The extent of these modifications are explained in the specific texts for those industries. "Bridge tables" are also included showing selected data tabulated using both the previous classification system and the 1987 revision.

## ESTABLISHMENT BASIS OF REPORTING

The census of construction industries is conducted on an establishment basis. A "construction establishment" is defined as a relatively permanent office or other place of business where the usual business activities related to construction are conducted. With some exceptions, a relatively permanent office is one which has been established for the management of more than one project or job and which is expected to be maintained on a continuing basis. Such "establishment" activities include, but are not limited to estimating, bidding, purchasing, supervising, and operation of the actual construction work being conducted at one or more construction sites. Separate construction reports were not required for each project or construction site.

Companies with more than one construction establishment were required to submit a separate report for each such establishment operated during all or any part of 1987. The census of construction industries figures represent a summary of records for individual establishments rather than for companies. The census tabulations, therefore, differ from those prepared on a company basis.

<sup>1</sup>Standard Industrial Classification Manual: 1987. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.

If an establishment engaged in construction and one or more distinctly different lines of economic activity (wholesale or retail trade, service, manufacturing, mining, etc.) at the same place of business, it was requested to file a separate report appropriate to each activity, provided that the activity was of substantial size and separate records were maintained or substantially accurate estimates could be prepared.

If a separate establishment report could not be prepared for each activity, then a construction report was requested covering all activities of that establishment providing that the 1987 value of construction work exceeded the gross receipts from each of its other activities.

Construction businesses with no payroll during 1987 (nonemployers) were not required to file census reports. Tabulation of data for these businesses are based on administrative records and are shown only in U.S. summary publications and the geographic area reports series. Refer to the section on "Sample Design" for details. Foreign construction activities were not included in this census.

## **SAMPLE DESIGN, ESTIMATION PROCEDURES, AND RELIABILITY OF ESTIMATES**

The companies included in the 1987 Census of Construction Industries were identified as part of an operation common to all 1987 Economic Censuses. Construction companies were divided into employers (companies with payroll) and nonemployers (companies without payroll). Statistical information for the employers was obtained in the census by a survey which included all medium size and large employers and a sample of the smaller ones. Census reports were not required from the nonemployers. Statistics on them were obtained from administrative records of other agencies of the Federal Government.

### **Employer Companies**

**Developing the sampling frame for employer companies**—This operation started with obtaining a list of all construction companies in the active records of the Internal Revenue Service (IRS) which were subject to payment of Federal Insurance Contributions Act taxes. The basic source for this list has been the Internal Revenue Service Business Master File, a comprehensive list of companies engaged in business activities in the United States. The file contains the name, address, and form of ownership of each company and also indicates whether or not the company is subject to the FICA. Each company in this file is assigned a unique employer identification (EI) number which it uses in filing its various reports with the IRS. The Social Security Administration (SSA) maintains a similar list using the same identification numbers, which also contains information on the industrial classification of each company. The Bureau of the Census obtained both of these lists and combined them.

Under special arrangements which safeguarded the confidentiality of the information, the Bureau also obtained administrative records data on payrolls and receipts and added these data to the combined list. The list, thus created from the IRS-SSA information, was a list of employer companies. However, for the 1987 Economic Censuses the basic reporting unit is the "establishment." Therefore, steps were taken to identify the individual establishments of those companies which operate more than one place of business. The information for making this determination was obtained by means of the Company Organization Survey (COS), an annual canvass of all known multiestablishment companies and large single-establishment companies. Thus, the 1987 Economic Census list for single-establishment employer companies was obtained from the IRS-SSA, but the list of establishments of multiestablishment employer companies was obtained directly from those companies in the COS. Refer to the section on "Establishment Basis for Reporting" for details.

In general, the IRS-SSA list provided sufficient industrial classification data to assign a company to the proper economic census, but there were a number of companies for which this information was inadequate or unavailable. A special form, NC-9923, General Schedule, was mailed to all such companies, requesting information on the nature of the company's activities. From the information reported, the company was given an industrial classification code and assigned to the appropriate economic census. Since construction companies found in this way were identified only after the regular census mailing had taken place, they were treated as a supplement to the basic list.

**Selecting the employer sample**—The sample was designed to provide reliable State and metropolitan area estimates for each construction industry. It consisted of all construction establishments in multiestablishment companies, all single-establishment companies with estimated total employment of 20 employees or more, and a probability sample of single-establishment companies with estimated employment of fewer than 20 employees.

Supplementing the sample were construction companies identified from the NC-9923, General Schedule. Also affecting the sample were the misclassified companies; i.e., companies included in the samples of other trade areas which reported they were construction companies and companies originally classified in construction which reported they were not construction companies.

Of the 533,000 single-establishment employer companies initially classified as construction companies, 147,000 were included in the sample. All of the 13,000 establishments of multiestablishment companies were included in the sample. There was a net increase in the sample of 60,000 establishments resulting from establishments originally unclassified (receiving the NC-9923) or misclassified.

The probability sample of the smaller single-establishment companies was a stratified random sample. Strata were formed from all establishments with the same initial four-digit SIC code, in the same State, in the same metropolitan

area or in the balance of the State, and in the same size class based on estimated total employment. If the four-digit SIC code for an establishment was incomplete, the establishment was placed in a stratum for miscellaneous companies. Because they were small, all companies were included in the sample for the following three industries: SIC 1622, Bridge, Tunnel, and Elevated Highway Construction Contractors; SIC 1795, Wrecking and Demolition Work Special Trade Contractors; and SIC 1796, Installation or Erection of Building Equipment Special Trade Contractors.

#### Estimation procedures for 1987 and 1982 data—

Since all larger employer companies and some smaller ones were included in the census, sample estimation was required only for the universe of companies not selected with certainty. The published statistics are the totals of the estimates for the sampled companies and the aggregates for the certainty companies. All estimates for 1987 and 1982 published here are simple unbiased estimates of the form:

$$x'_c = \frac{\sum x_i / p_i}{n_c}$$

$$i = 1$$

where:  $x'_c$  is the simple unbiased estimate of a characteristic for a publication cell.

$x_i$  is the reported value of a characteristic for an individual establishment in the publication cell.

$p_i$  is the selection probability of that firm.

$n_c$  is the number of firms in the sample for the cell.

Data for certain characteristics were reported as a percentage of the dollar value of business done. Before this formula was applied to those characteristics, it was necessary to convert the reported percentages into dollars.

**Reliability of employer statistics**—Since the estimates for employer establishments in these reports are based on the samples, they are subject to sampling variability and may be expected to differ from results which would have been obtained if a complete census had been taken using the same forms and procedures. The sampling errors shown in the tables were estimated directly from the sample reports, using methods appropriate for the sample design and form of estimation used.

The relative standard error is a measure of sampling variability, i.e., the variation that might occur by chance because only a sample of the population is surveyed. As calculated for this report, the relative standard error also partially reflects the effect of random errors of response and processing, but it does not take into account the effect of any consistent biases due to those types of errors. The chances are about 68 out of 100 that an estimate from the

sample would differ from a complete census by less than the relative standard error. The chances are about 95 out of 100 that the difference is less than twice the relative standard error and about 99 out of 100 that it is less than 2-1/2 times the relative standard error. Individual estimates with large relative standard errors have been shown in the published tables. Any such estimates should be used with caution. The very large relative standard errors generally occur for the smaller estimates.

Relative standard errors have been calculated for all of the published statistics, although they are shown for each statistic only in the tables presenting detailed statistics. Other tables show relative standard errors only for certain characteristics because of lack of space.

As calculated for this report, the relative standard error measures certain nonsampling errors, but does not measure any systematic biases in the data. Bias is the difference, averaged over all possible samples with the same size and design, between the estimates and the true value being estimated. Nonsampling errors can be attributed to many sources: inability to obtain information about all cases in the sample; definitional difficulties; differences in interpretation of questions; inability or unwillingness of respondents to provide correct information; and errors made in processing the data. Although no direct measurements of the biases have been obtained, it is believed that most of the important response and operational errors were detected in the course of reviewing the data for reasonableness and consistency.

A potential source of bias is in the imputation for those establishments that have not responded by the time of final publication. Data were estimated for establishments that did not report by that date, although selected establishments were contacted again to obtain as much information on the telephone as possible. Some publication cells in which more than 40 percent of the data were not reported have been suppressed.

#### Nonemployer Companies

As described earlier, the information derived from the business income tax returns of all companies was matched to the census employer file on the basis of common identification numbers. Those business income tax returns which could not be matched, were further classified on the basis of several characteristics. Returns with characteristics consistent with companies without payroll were treated as nonemployers. The nonemployer construction companies were not required to file census reports.

For "number of establishments," each separate income tax return was assumed to be an establishment. "All business receipts" was based on receipts information reported on the tax return.

Since no sampling was involved in the nonemployer establishments, the statistics for nonemployers are not subject to sampling variability. However, these data are subject to an unknown amount of reporting and processing errors which could not be detected by the Census Bureau.

## CENSUS REPORT FORMS

Information for the 1987 Census of Construction Industries was obtained from employer establishments primarily through the use of twenty-four questionnaires, determined by industry classification and size. Standard forms and short forms were developed for each of the following SIC groups: 15, 16, 171, 172, 173, 174, 175, 176, 177, 178, and 179 and for the establishments classified in SIC 6552. Establishments with 50 or more employees all received the standard form. A sub-sample of establishments with fewer than 50 employees received short forms instead of the standard forms. The short forms covered only major items and omitted some of the detail found in the longer forms.

In reviewing and developing the questionnaires, comments and recommendations were elicited from construction trade associations and appropriate advisory groups. The Bureau surveyed several thousand firms representing all economic activities to gain insight into the way companies maintain records and to see whether new information could be collected.

## DATA PROCESSING

The 1987 census report forms were mailed out in December 1987. They were mailed from and returned to the Census Bureau's Data Preparation Division in Jeffersonville, Ind., where routine editing and coding of the report forms were also accomplished. Collection of these report forms was essentially completed in July 1988.

The returned reports underwent extensive processing. A preliminary edit done at the time of data entry identified obviously deficient reports and reports needing clarification. When necessary, these problems were resolved by further contact with the respondents. Next, the data were transmitted to Census Bureau headquarters near Washington, DC.

Data records, then, underwent a detailed computer review and analysis. The records containing significant problems were referred for further analytical review and, if necessary, contacts were made with the respondents. The computer performed most classification coding (such as industry coding, geographic coding, and size coding), and imputation for missing items or for reports not received in time for tabulation. The imputation was performed on an industry (or industry group)-State (or geographic group) basis using all available response and administrative data.

The data records were then tabulated on an industry basis. Industry totals were subjected to analytical review, and selected statistics were prepared for the preliminary reports. Corrections resulting from this review were made to the computer records and final tabulations were produced.

The review of a preliminary report for an industry often uncovered the need for corrections or revisions to the data for another industry for which a preliminary report had already been published. The final reports incorporate all

revisions and corrections made during the review of the preliminary reports and contain considerable more data than were published in those reports.

## GEOGRAPHIC CLASSIFICATION

Information for the 1987 Census of Construction Industries' final industry report series is classified on the basis of two types of geographic distributions: (1) physical location of the establishment, and (2) location of construction work. A separate code was assigned on each basis allowing us to present data by both physical locations of the establishment and location of construction work.

The geographic area reports series presents similar data by industry for each State (physical location of the establishment) and for selected MSA's, CMSA's and PMSA's.

## DUPLICATION IN VALUE OF CONSTRUCTION WORK

The aggregate of value of construction work reported by all construction establishments in each of the several industry, geographic area, or other groupings in this census, contains varying amounts of duplication, since the construction work of one firm may be subcontracted to other construction firms and also be included in the subcontractors' value of construction work. To avoid this duplication, a "net" value of construction work figure has been derived for each establishment by subtracting the costs for construction work subcontracted to others from the value of construction work.

Duplication in value of business between other construction and nonconstruction industries, results from the use of products of these other industries as input materials by construction establishments. "Value added," avoids this duplication and is, for most purposes, the best measure for comparing the relative economic importance of industries or areas. "Value added," is defined in the 1987 Census of Construction Industries as equal to dollar value of business done less costs for construction work subcontracted to others and payments for materials, components, supplies, and fuels. However, for SIC 6552 and SIC 1531 where land receipts are significant, land receipts are also subtracted from dollar value of business done.

## SPECIAL TABULATIONS

Special tabulations of data collected in the 1987 Census of Construction Industries may be obtained on computer tape or in tabular form. The data will be in summary form and subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) as are the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact and detailed specifications of the type and format of the data to be provided, should be directed to the Chief, Construction Statistics Division, Bureau of the Census, Washington, DC, 20233.

To discuss a special tabulation before submitting specifications, call 301-763-7546.

## COMPARABILITY OF CENSUS OF CONSTRUCTION INDUSTRIES DATA WITH OTHER DATA

Data contained in the reports of the 1987 Census of Construction Industries are not the same as the data published in the Census Bureau's monthly Construction Reports, Series C30, Value of New Construction Put in Place. The main difference is that the C30 series covers all new construction put in place without regard to who is performing the construction activity, whereas the construction census figures cover both new construction and maintenance and repair work done by establishments classified in the construction industry. Significant amounts of construction are done by establishments classified outside of construction (in real estate, manufacturing, utilities and communications, for example), both as "force account" construction and construction done for others. In addition, the value in place series includes construction-related expenses such as architectural and engineering costs and the costs of materials supplied by owners which are normally not reflected in the Census of Construction.

Data contained in the reports of the census of construction industries may also differ from industry data in "Employment and Earnings Statistics," published by the Bureau of Labor Statistics, and "Statistics of Income," published by the Internal Revenue Service. These differences arise from varying definitions of scope, coverage, timing, classification, and methodology.

## ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in this publication:

*	Sampling error exceeds 40 percent.
**	Represents the sum of all employees during pay periods including 12th of March, May, August, and November, divided by 4.
-	Represents zero.
†	Represents value of construction work less costs for construction work subcontracted to others. (See Duplication in Value of Construction Work.)
††	Represents dollar value of business done less costs for construction work subcontracted to others, and costs for materials, components, supplies, and fuels. In SIC's 1531 and 6552, land receipts are also subtracted from dollar value of business done. (See Duplication in Value of Construction Work.)
(D)	Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
(NA)	Not available.
(S)	Withheld because estimate did not meet publication standards on the basis of either the response rate, associated relative standard error, or a consistency review.
(W)	Greater than zero but less than 1 percent.
(X)	Not applicable.
n.s.k.	Not specified by kind.

# Users' Guide for Locating Statistics in This Report by Table Number

Statistics	For U.S.	By State	By employment size	By size class of dollar value of business done	By type, class, ownership, kind of business, and location of construction <sup>1</sup>	By specialization in types of construction
Assets and depreciation (gross book value):						
Beginning of year—buildings, machinery and equipment.....	3					
End of year—total.....	1, 3	1	5	6		
End of year—buildings, machinery and equipment.....	3					
Depreciation charges during year— buildings, machinery and equipment.....	3					
Capital expenditures:						
Total capital expenditures .....	1, 3	1	5	6		
New buildings—machinery and equipment .....	3					
Used buildings—machinery and equipment.....	3					
Communication services, costs for .....	2					
Employees:						
All employees—average number .....	1, 2	1	5	6		
Construction workers—average number.....	1, 2, 9	1, 9				
Other employees—average number .....	2					
Employer costs for fringe benefits—legally required and voluntary expenditures.....	2					
Establishments—number in business during year .....	1, 2, 4, 9	1, 9	5	6		
Hours—construction workers:						
Total.....	1, 2, 9	1, 9	5	6		
Quarterly.....	2, 9	9				
Inventories .....	4					
Materials, components, supplies, and fuels—costs for .....	1, 2	1	5	6		
Payroll:						
First quarter, all employees.....	2					
Annual:						
All employees.....	1, 2	1	5	6		
Construction workers .....	1, 2	1				
Other employees.....	2					
Power, fuels, and lubricants—costs for.....	2					
Proprietors and working partners.....	2					
Ratios, State.....	13	13				
Value and receipts:						
Dollar value of business done, total .....	2		5	6		
Value of construction work, total .....	1, 2, 4	1	5	6	11	
For work subcontracted in from others.....	2				2, 7, 10	
Other business receipts and land receipts <sup>2</sup> .....	2					
Net value of construction work.....	1, 2	1	5	6		
Value added.....	1, 2	1	5	6		
Rental costs:						
Total.....	1, 2	1	5	6		
For machinery and equipment .....	2					
For buildings.....	2					
Repairs to buildings and other structures.....	2					
Repairs to machinery and equipment .....	2					
Selected industry ratios .....	12					
Subcontract work to others, costs for.....	1, 2	1	5	6		

Note: Data for 1982 and earlier years are also available in some of these tables.

<sup>1</sup>Type—buildings, roads, etc. Class—new construction; additions, alterations, or reconstruction; or maintenance and repair work. Ownership—private or government owned.

<sup>2</sup>Land receipts are shown separately for SIC's 1531 and 6552 only.

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Statistics for Establishments Without Payroll appear in the U.S. Industry Summary Report.

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## SUMMARY OF FINDINGS

Establishments classified in this industry are primarily engaged in subdividing real property into lots, except cemetery lots, and in developing it for resale on their own account. For additional examples, refer to the 1987 Standard Industrial Classification (SIC) Manual published by the Office of Management and Budget, Executive Office of the President.

During 1987, the establishments with paid employees classified in this industry accounted for \$7.5 billion in total dollar value of business. Of this amount, \$4.6 billion were for the value of construction work. These establishments paid out \$607 million for materials, components, and supplies and \$2.1 billion for construction work subcontracted to others. Costs for selected power, fuels, and lubricants for this industry were \$67.4 million. Value added for 1987 was \$2.2 billion.

There were 7,955 establishments with total employment averaging 39,768 during the year. Total payroll for 1987 was \$867 million. Total hours worked by construction workers during the year were 15.0 million hours.

Larger establishments with 20 employees or more, while representing only 4 percent of the total number of employer establishments in this industry accounted for 37 percent of all business done.

A "construction establishment" is defined as a relatively permanent office, or other place of business, where the usual business activities related to construction are conducted. A separate census report was required from each sampled establishment covering domestic operations. Separate reports were not, however, required for each project or construction site.

In 1987, the value of construction work was collected to better measure actual construction activity done during the year. Construction receipts, as reported in earlier censuses, may have included the value of work done before or after the calendar year and may have excluded the value of work in progress during the calendar year. Receipts may have also excluded work done by builders engaged in construction for sale on their own account or for their own use. All dollar values are shown in current dollars for the years specified and have not been adjusted for inflation.

The data in this report are estimated from a sample survey and are subject to sampling variability as well as errors of response and nonreporting. The relative standard error shown in the tables is a measure of sampling variability. Descriptions of the sampling, estimating procedures, and data reliability are included in the Introduction.

Figure 1. **Value of Construction Work by Type of Construction**

(Percent)

1987   
1982 

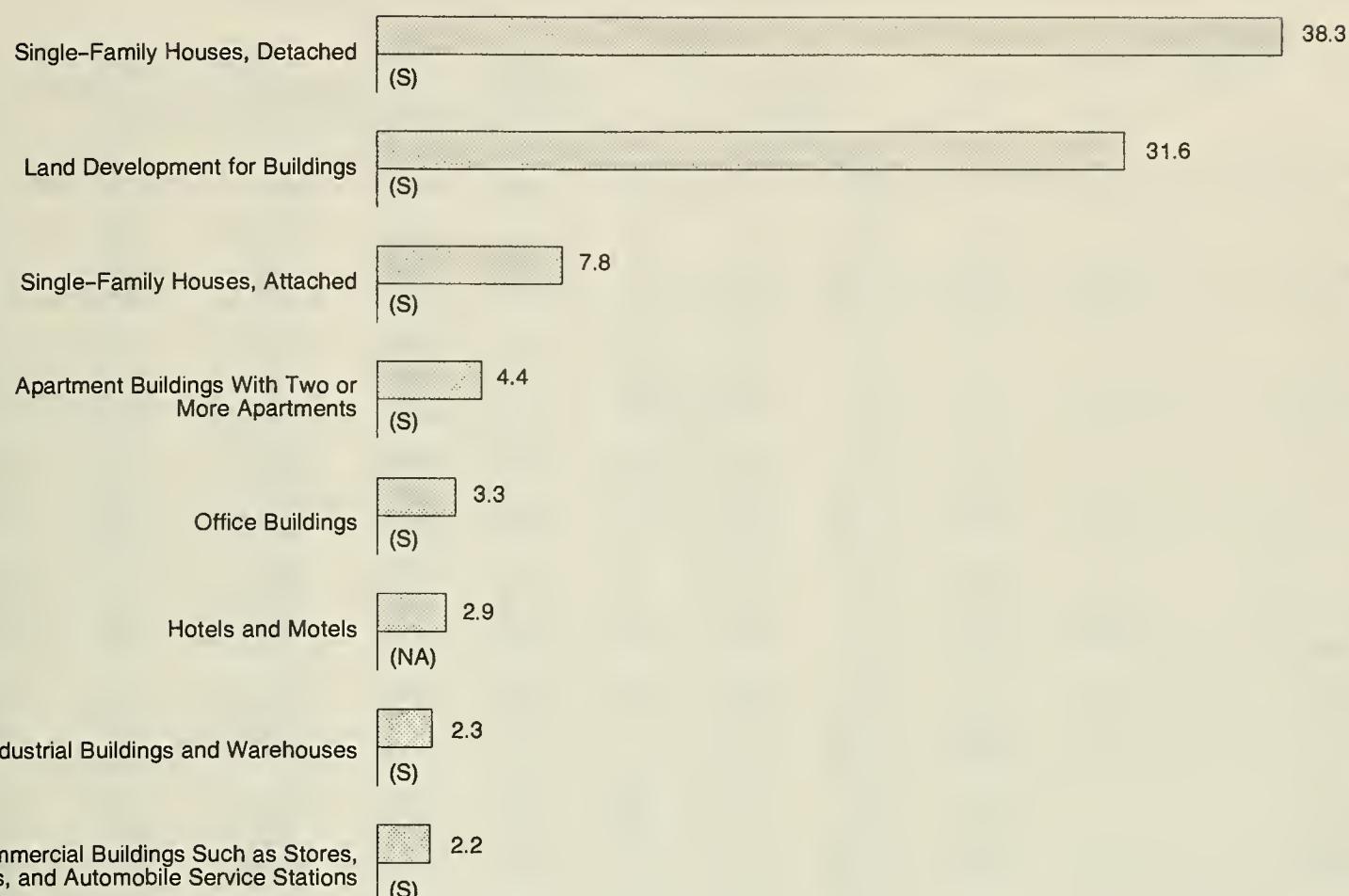
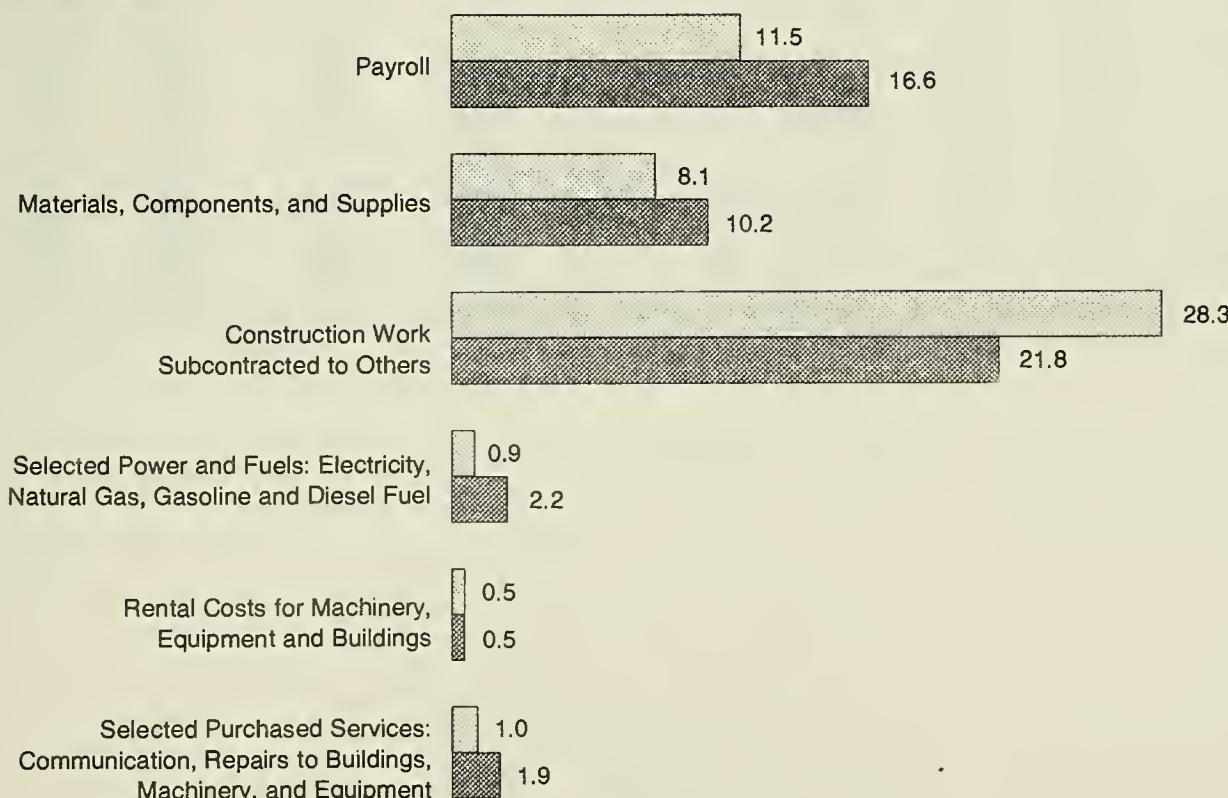


Figure 2. **Selected Costs Per Dollar Value of Business Done**

(Percent)

1987   
1982 



For meaning of abbreviations and symbols, see introductory text.

Table 1. General Statistics for Establishments With Payroll by State: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	1987								
	Number of establishments	Employees**		Payroll		Construction worker hours (thousands)	Value of construction work	Net value of construction work	
		All	Construction workers	All employees	Construction workers				
	A	B	C	D	E	F	G	H	
United States	7 955	39 768	9 312	867 427	152 968	15 021	4 635 921	2 505 153	
Alabama	107	323	53	5 197	769	98	24 842	14 023	
Alaska	*7	(S)	(S)	(S)	(S)	(S)	(D)	(S)	
Arizona	224	(S)	(S)	(S)	(S)	(S)	(S)	(S)	
Arkansas	57	147	68	2 563	1 229	122	*17 334	7 209	
California	1 232	6 697	1 383	161 978	24 277	1 950	1 105 341	520 680	
Colorado	161	857	69	20 861	858	*127	136 788	52 762	
Connecticut	177	845	267	19 540	4 118	432	68 686	43 369	
Delaware	16	64	*14	1 142	*185	*32	*17 734	*9 880	
District of Columbia	20	*232	(D)	2 747	(D)	(D)	10 578	(D)	
Florida	847	5 290	979	115 912	15 044	1 509	497 707	288 331	
Georgia	284	1 873	273	45 053	4 902	426	251 963	105 320	
Hawaii	39	309	73	6 061	1 343	137	21 249	15 297	
Idaho	23	58	(D)	547	(D)	(D)	1 186	(D)	
Illinois	274	1 072	293	22 458	5 226	489	102 770	66 464	
Indiana	86	416	180	6 390	2 024	244	44 940	33 785	
Iowa	28	*87	(S)	*1 206	879	(S)	*3 807	*2 854	
Kansas	21	*61	*23	*1 390	*675	(S)	*40 787	*22 582	
Kentucky	37	109	18	1 699	253	*25	6 422	4 474	
Louisiana	98	*413	*189	*6 349	*2 546	*461	*24 392	*14 380	
Maine	32	185	22	3 931	*598	*51	15 646	10 666	
Maryland	193	1 094	175	24 127	3 228	359	131 155	72 628	
Massachusetts	247	(S)	(S)	(S)	(S)	(S)	(S)	(S)	
Michigan	107	477	125	11 281	1 771	200	47 174	28 496	
Minnesota	78	(S)	(S)	(S)	(S)	(S)	(S)	(S)	
Mississippi	45	88	*11	*1 548	*215	(S)	*13 153	*6 626	
Missouri	115	385	82	7 167	1 170	93	30 169	23 201	
Montana	*5	(S)	(S)	(S)	(S)	(S)	(S)	(S)	
Nebraska	30	173	*47	*2 480	*650	(S)	7 452	5 804	
Nevada	47	(S)	(S)	(S)	(S)	(S)	(S)	(S)	
New Hampshire	76	301	*128	6 132	2 131	*349	26 555	14 565	
New Jersey	209	2 413	654	53 059	11 608	1 148	236 317	111 789	
New Mexico	56	(S)	(S)	(S)	(S)	(S)	(S)	(S)	
New York	467	(S)	(S)	(S)	(S)	(S)	(S)	(S)	
North Carolina	270	1 084	349	21 965	5 164	625	127 126	65 047	
North Dakota	-	-	-	-	-	-	-	-	
Ohio	135	431	102	6 998	1 418	158	39 913	27 264	
Oklahoma	77	(S)	(S)	(S)	(S)	(S)	(S)	(S)	
Oregon	83	206	*18	2 860	*265	*35	36 148	28 432	
Pennsylvania	135	611	218	11 142	3 429	390	49 213	32 815	
Rhode Island	35	*216	*60	*3 914	*813	42	*15 871	*10 965	
South Carolina	107	353	74	7 493	1 026	135	59 521	30 622	
South Dakota	6	(D)	(S)	(D)	(S)	(S)	(D)	(D)	
Tennessee	123	(S)	(S)	(S)	(S)	(S)	(S)	(S)	
Texas	968	(S)	(S)	(S)	(S)	(S)	(S)	(S)	
Utah	51	102	*22	1 864	*461	(S)	11 343	*6 497	
Vermont	32	316	102	6 176	(D)	(D)	14 171	11 809	
Virginia	199	1 175	410	25 046	6 228	632	140 073	61 693	
Washington	174	674	224	11 467	3 818	333	67 904	43 412	
West Virginia	*27	(S)	(S)	(S)	(S)	(S)	(S)	(S)	
Wisconsin	66	140	31	2 432	*995	*64	*20 109	*11 209	
Wyoming	*4	(S)	(S)	(S)	(S)	(S)	(S)	(S)	

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

Value added††	Cost of materials, components, supplies, and fuels	Cost of construction work subcontracted to others	Rental cost for machinery, equipment, and buildings	Capital expenditures, other than land	End-of-year gross book value of depreciable assets	All employees**	Total construction receipts†	Value added††	Relative standard error of estimate (percent) for column—			Location of establishment
									B	H	M	
I	J	K	L	M	N	O	P	Q	B	H	M	
2 239 891	674 096	2 130 768	35 096	111 885	1 167 595	40 183	2 009 890	1 018 890	2	3	9	U.S.
11 826	4 452	10 818	304	*379	4 421	(D)	(S)	(S)	16	14	43	AL
(D)	(D)	(D)	(S)	(S)	(S)	178	8 703	5 727	(S)	(S)	(S)	AK
(S)	(S)	(S)	(S)	(S)	1 008	48 332	26 890	(S)	(S)	(S)	AZ	
5 512	2 069	*10 125	124	(S)	*2 825	511	12 268	9 955	19	37	(S)	AR
506 841	116 922	584 660	8 628	9 492	240 951	8 533	364 053	218 462	6	7	11	CA
46 820	14 560	84 026	1 122	1 628	26 040	1 422	100 255	45 256	7	12	13	CO
32 642	15 875	25 317	355	1 742	24 630	(S)	(S)	(S)	7	10	26	CT
*13 095	*1 093	*7 853	27	16	*10 253	—	—	—	19	61	40	DE
8 652	(D)	(D)	61	(D)	*623	(S)	(S)	(S)	45	(D)	(D)	DC
276 038	68 692	209 375	4 182	25 399	121 005	5 722	279 161	167 465	3	5	25	FL
100 674	37 310	146 643	1 272	16 835	75 220	1 271	66 688	27 513	4	16	25	GA
18 118	4 219	5 951	507	176	8 539	323	22 722	10 361	6	4	(W)	HI
911	(D)	(D)	11	—	*71	78	2 693	1 631	27	(D)	—	ID
63 980	14 576	36 306	656	2 753	24 009	950	42 628	26 255	9	11	25	IL
*27 829	6 690	11 154	69	*4 202	15 331	234	8 917	5 413	17	34	65	IN
*2 257	*684	953	6	(S)	663	140	23 896	(D)	64	64	(S)	IA
*9 925	(S)	*18 205	(D)	(D)	195	5 870	3 357	41	74	(D)	(D)	KS
3 668	1 181	1 948	34	63	1 074	178	7 013	4 280	21	21	10	KY
*11 357	*3 874	*10 012	*154	*595	*12 084	541	26 410	15 845	41	43	52	LA
11 564	2 034	4 980	76	*190	*4 127	(D)	1 016	505	8	23	51	ME
61 557	17 266	58 527	288	1 345	10 379	816	29 813	17 041	12	19	26	MD
(S)	(S)	(S)	(S)	(S)	688	15 615	5 795	(S)	(S)	(S)	(S)	MA
23 010	*5 939	20 678	143	386	14 277	310	12 582	8 020	14	15	28	MI
(S)	(S)	(S)	(S)	(S)	241	12 900	7 932	(S)	(S)	(S)	(S)	MN
*5 132	*3 816	*6 527	(S)	(S)	4 568	249	8 046	4 539	31	50	(S)	MS
19 171	7 642	6 968	138	710	12 257	(S)	(S)	(S)	14	22	7	MO
(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	MT
3 955	*2 584	*1 648	*70	*55	*144	10	455	234	28	36	73	NE
10 739	5 576	*11 989	*171	264	637	39 718	21 860	(S)	(S)	(S)	(S)	NV
73 045	66 320	124 527	971	6 134	29 468	(S)	(S)	(S)	5	13	34	NJ
(S)	(S)	(S)	(S)	(S)	323	10 861	7 272	(S)	(S)	(S)	(S)	NM
47 672	27 684	62 079	1 052	13 339	65 782	622	37 247	17 870	9	11	32	NC
-	-	-	-	-	-	*37	*1 821	*1 464	-	-	-	ND
22 119	*7 594	12 649	*414	*286	*9 275	659	31 281	21 177	19	29	50	OH
(S)	(S)	(S)	(S)	(S)	323	15 323	9 787	(S)	(S)	(S)	(S)	OK
29 429	1 390	7 716	483	353	3 254	196	9 023	*2 552	29	18	29	OR
23 602	12 883	16 397	359	717	11 083	536	22 350	14 391	8	5	19	PA
*9 185	*2 503	*4 905	115	97	3 011	(S)	(D)	57	45	9	9	RI
26 652	8 386	28 899	471	(D)	5 163	1 289	55 868	32 935	9	4	(D)	SC
(D)	(S)	(D)	(S)	(S)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	SD
(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	TN
4 496	*2 320	4 846	55	(D)	1 311	6 120	446 892	143 944	22	43	(D)	TX
						270	18 091	11 139				UT
12 385	3 593	2 362	60	315	5 105	(D)	(D)	(D)	8	14	9	VT
37 333	29 630	78 379	834	2 329	14 196	(S)	(S)	(S)	13	15	11	VA
34 919	13 804	24 492	812	*894	*22 657	400	16 070	10 065	16	16	69	WA
(S)	(S)	(S)	(S)	(S)	(S)	104	2 828	1 829	(S)	(S)	(S)	WV
*9 977	*2 628	8 900	68	126	1 320	98	2 921	1 906	25	50	34	WI
(S)	(S)	(S)	(S)	(S)	(S)	109	3 119	1 842	(S)	(S)	(S)	WY

Table 2. Detailed Statistics for Establishments With Payroll: 1987 and Earlier Census Years

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	1987	1982	1977	1972	Relative standard error of estimate (percent)			
					1987	1982	1977	1972
Number of establishments in business during year .....	7 955	5 925	5 078	7 914	2	2	3	3
Proprietors and working partners .....	1 035	732	1 748	1 933	9	6	7	7
All employees** .....	39 768	40 183	39 001	62 314	2	2	3	2
Construction workers:								
March .....	8 644	14 303	15 428	19 127	3	1	3	3
May .....	9 635	15 405	1 877	2 191	3	1	3	3
August .....	10 174	15 278	19 143	25 263	3	2	3	3
November .....	8 810	14 867	16 621	22 224	3	2	3	3
Average .....	9 312	15 142	17 518	22 389	3	1	3	3
Other employees:								
March .....	30 201	22 228	19 984	36 570	2	1	3	2
May .....	29 895	(NA)	(NA)	(NA)	2	(NA)	(NA)	(NA)
August .....	31 465	(NA)	(NA)	(NA)	2	(NA)	(NA)	(NA)
November .....	30 244	(NA)	(NA)	(NA)	2	(NA)	(NA)	(NA)
Average .....	30 455	(NA)	(NA)	(NA)	2	(NA)	(NA)	(NA)
Construction worker hours (thousands):								
January to March .....	3 418	6 160	(NA)	(NA)	4	2	(NA)	(NA)
April to June .....	3 867	6 737	(NA)	(NA)	4	2	(NA)	(NA)
July to September .....	4 069	6 290	(NA)	(NA)	4	2	(NA)	(NA)
October to December .....	3 665	6 049	(NA)	(NA)	4	2	(NA)	(NA)
Total hours worked .....	15 021	25 237	(NA)	(NA)	4	2	(NA)	(NA)
Payroll, all employees .....	867 427	568 664	414 002	476 746	2	1	3	2
Payroll, construction workers .....	152 968	157 399	149 658	151 433	3	1	3	3
Payroll, other employees .....	714 459	411 264	264 343	325 313	2	1	3	2
First quarter payroll, all employees .....	201 839	135 557	89 354	(NA)	2	1	3	(NA)
Employer costs for fringe benefits, all employees .....	143 381	107 998	67 163	(NA)	2	1	3	(NA)
Legally required expenditures .....	106 535	77 518	42 689	(NA)	2	1	3	(NA)
Voluntary expenditures .....	36 845	30 480	24 474	(NA)	2	1	3	(NA)
Dollar value of business done .....	7 527 764	3 424 531	3 042 515	3 128 073	2	1	3	2
Value of construction work <sup>1</sup> .....	4 635 921	2 009 890	1 812 184	1 318 679	2	1	4	3
Value of construction work subcontracted in from others .....	84 450	41 072	25 604	59 134	14	7	10	9
Land receipts <sup>2</sup> .....	2 483 007	1 231 464	1 058 661	1 596 510	3	1	3	3
Other business receipts .....	408 835	183 177	171 670	212 884	3	2	4	2
Net value of construction work <sup>1</sup> .....	2 505 153	1 262 536	1 053 473	516 256	3	1	4	6
Value added <sup>11</sup> .....	2 239 891	1 018 890	747 516	387 401	3	1	4	6
Selected costs .....								
Materials, components, and supplies <sup>3</sup> .....	2 804 865	1 174 177	1 236 338	1 144 162	3	1	4	3
Construction work subcontracted to others .....	606 656	350 675	419 677	341 739	4	2	4	4
Selected power, fuels, and lubricants .....	2 130 768	747 354	758 711	802 423	3	1	4	4
Electricity .....	67 440	76 148	57 950	(NA)	2	1	3	(NA)
Natural gas .....	23 497	24 993	19 027	(NA)	3	2	3	(NA)
Gasoline and diesel fuel .....	2 665	4 714	5 290	(NA)	7	4	9	(NA)
On highway use .....	34 952	39 423	23 329	(NA)	2	1	3	(NA)
Off highway use .....	31 028	(NA)	(NA)	(NA)	2	(NA)	(NA)	(NA)
Other, including lubricating oils and greases .....	3 924	(NA)	(NA)	(NA)	5	(NA)	(NA)	(NA)
6 325	7 017	10 304	(NA)	(NA)	4	1	3	(NA)
Rental cost for machinery, equipment, and buildings .....	35 096	17 502	15 761	(NA)	3	3	4	(NA)
For machinery and equipment .....	11 270	7 577	9 015	26 783	5	3	5	3
For buildings .....	23 826	9 925	6 745	(NA)	4	3	4	(NA)
Selected purchased services .....								
Communication services .....	76 706	64 335	49 919	(NA)	4	2	3	(NA)
Repairs to buildings and other structures .....	30 328	20 092	16 994	(NA)	3	2	3	(NA)
Repairs to machinery and equipment .....	14 246	8 263	6 858	(NA)	17	4	5	(NA)
32 131	35 979	26 066	(NA)	(NA)	3	2	3	(NA)
Ownership of construction projects:								
Value of construction work <sup>1</sup> .....	4 635 921	2 009 890	1 812 184	1 318 679	2	1	4	3
Government owned .....	64 607	(S)	(S)	(S)	19	(S)	(S)	(S)
Federal .....	6 962	(NA)	(NA)	(NA)	20	(NA)	(NA)	(NA)
State and local .....	57 645	(NA)	(NA)	(NA)	21	(NA)	(NA)	(NA)
Privately owned .....	4 571 314	(S)	(S)	(S)	3	(S)	(S)	(S)

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

<sup>2</sup>Data were collected separately for establishments classified in SIC 1531, Operative Builders, and SIC 6552, Subdividers and Developers, Except Cemeteries. For all other industries, data are included in other business receipts.

<sup>3</sup>For 1972, includes data for power, fuels, and lubricants.

Table 3. **Assets, Capital Expenditures, and Depreciation for Establishments With Payroll: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	1987	1982	Relative standard error of estimate (percent)	
			1987	1982
<b>BUILDINGS AND OTHER STRUCTURES, MACHINERY, AND EQUIPMENT</b>				
Beginning-of-year gross book value of depreciable assets .....	1 176 843	1 244 277	6	1
Capital expenditures, other than land .....	111 885	70 905	9	2
New .....	99 468	53 989	10	3
Used .....	12 417	16 916	10	2
Retirements and disposition of depreciable assets .....	121 133	101 164	21	1
End-of-year gross book value of depreciable assets .....	1 167 595	1 214 018	5	1
Depreciation charges during year .....	119 285	98 872	7	1
<b>Buildings and other Structures, Additions, and Related Facilities</b>				
Beginning-of-year gross book value of depreciable assets .....	627 018	772 549	9	1
Capital expenditures, other than land .....	66 671	32 119	14	4
New buildings and other structures .....	62 844	30 455	14	5
Used buildings and other structures .....	3 827	1 664	20	10
Retirements and disposition of depreciable assets .....	98 267	70 857	25	1
End-of-year gross book value of depreciable assets .....	595 422	733 812	6	1
Depreciation charges during year .....	56 282	38 742	7	1
<b>Machinery and Equipment</b>				
Beginning-of-year gross book value of depreciable assets .....	549 825	471 728	6	1
Capital expenditures, other than land .....	45 213	38 785	7	2
New machinery and equipment, including automobiles and trucks .....	36 623	23 533	8	3
New automobiles and trucks, intended primarily for highway use .....	14 310	10 247	9	5
Used machinery and equipment, including automobiles and trucks .....	8 590	15 251	11	2
Retirements and disposition of depreciable assets .....	22 865	30 307	12	1
End-of-year gross book value of depreciable assets .....	572 173	480 206	6	1
Depreciation charges during year .....	63 003	60 129	8	1

Table 4. Value of Inventories for Establishments With Payroll: 1987 and 1986

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item	Establishments with payroll	Relative standard error of estimate (percent)
All establishments:		
Number	7 955	2
Value of construction work	4 635 921	2
Establishments with inventories:		
Number	2 582	4
Value of construction work	2 372 818	5
Inventories <sup>1</sup> :		
End of 1987, materials and supplies	89 686	13
End of 1986, materials and supplies	93 659	27
Establishments with no inventories:		
Number	3 405	4
Value of construction work	1 332 212	5
Establishments not reporting:		
Number	1 968	5
Value of construction work	930 891	6

<sup>1</sup>Inventories at cost or market prior to any adjustment to correct to LIFO values.

Table 5. Selected Statistics for Establishments With Payroll by Employment Size Class: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics	Total	Establishments with an average of—								
		1 to 4 employees	5 to 9 employees	10 to 19 employees	20 to 49 employees	50 to 99 employees	100 to 249 employees	250 to 499 employees	500 to 999 employees	1,000 employees or more
<b>1987</b>										
Number of establishments	7 955	(S)	1 024	441	238	41	23	1	4	1
All employees**	39 768	(S)	6 510	5 828	6 978	2 680	3 610	(D)	3 950	(D)
Payroll, all employees	867 427	(S)	154 539	130 057	147 178	63 539	71 661	(D)	85 170	(D)
Construction worker hours (thousands)	15 021	(S)	3 130	2 561	2 968	1 037	1 458	(D)	1 066	(D)
Dollar value of business done	7 527 764	(S)	1 537 103	1 083 587	1 082 844	674 335	417 123	(D)	580 961	(D)
Value of construction work <sup>1</sup>	4 635 921	(S)	930 207	625 808	671 733	399 507	265 690	(D)	402 831	(D)
Net value of construction work <sup>1</sup>	2 505 153	(S)	513 779	406 998	408 434	199 032	119 214	(D)	127 546	(D)
Value added <sup>††</sup>	2 239 891	(S)	423 264	377 325	370 724	177 949	234 516	(D)	(D)	(D)
Cost of materials, components, supplies, and fuels	674 096	(S)	141 868	105 499	106 348	65 045	92 571	(D)	(D)	(D)
Cost of construction work subcontracted to others	2 130 768	(S)	416 428	218 809	263 299	200 475	146 476	(D)	275 285	(D)
Rental cost for machinery, equipment, and buildings	35 096	(S)	6 342	5 996	7 598	3 609	2 095	(D)	(D)	(D)
Capital expenditures, other than land	111 885	(S)	7 343	12 058	19 580	11 960	7 905	(D)	14 812	(D)
End-of-year gross book value of depreciable assets	1 167 595	(S)	199 601	214 386	195 469	107 001	58 973	(D)	93 434	(D)
<b>1982</b>										
All employees**	40 183	8 103	4 518	4 697	6 981	4 653	3 982	7 248	-	(D)
Total construction receipts <sup>1</sup>	2 009 890	347 664	232 236	276 578	330 823	217 004	207 881	397 703	-	(D)
Value added <sup>††</sup>	1 018 890	198 290	127 890	122 967	184 852	114 442	141 111	129 336	-	(D)
<b>1987 RELATIVE STANDARD ERROR OF ESTIMATE (PERCENT)</b>										
All employees**	2	(S)	5	7	6	(W)	(W)	(D)	(W)	(D)
Net value of construction work <sup>1</sup>	3	(S)	7	9	4	(W)	(W)	(D)	(W)	(D)
Capital expenditures, other than land	9	(S)	13	24	9	2	(W)	(D)	(W)	(D)

Note: Underscored data fields include data from adjoining columns which have been withheld to avoid disclosing data for individual companies.

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

Table 6. Selected Statistics by Size Class of the Dollar Value of Business Done for Establishments With Payroll: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics	Total	Establishments with dollar value of business done									
		Less than \$25,000	\$25,000 to \$49,999	\$50,000 to \$99,999	\$100,000 to \$249,999	\$250,000 to \$499,999	\$500,000 to \$999,999	\$1,000,000 to \$2,499,999	\$2,500,000 to \$4,999,999	\$5,000,000 to \$9,999,999	\$10,000,000 or more
<b>1987</b>											
Number of establishments -----	7 955	(S)	(S)	(S)	(S)	(S)	(S)	(S)	306	166	85
All employees** -----	39 768	(S)	(S)	(S)	(S)	(S)	(S)	(S)	4 542	3 565	8 267
Payroll, all employees -----	867 427	(S)	(S)	(S)	(S)	(S)	(S)	(S)	122 522	95 469	208 589
Construction worker hours (thousands) -----	15 021	(S)	(S)	(S)	(S)	(S)	(S)	(S)	2 277	1 794	2 903
Dollar value of business done -----	7 527 764	(S)	(S)	(S)	(S)	(S)	(S)	(S)	1 033 281	1 143 414	2 449 790
Value of construction work <sup>1</sup> -----	4 635 921	(S)	(S)	(S)	(S)	(S)	(S)	(S)	645 747	689 918	1 499 476
Net value of construction work† -----	2 505 153	(S)	(S)	(S)	(S)	(S)	(S)	(S)	348 315	333 010	653 779
Value added†† -----	2 239 891	(S)	(S)	(S)	(S)	(S)	(S)	(S)	322 812	308 666	608 765
Cost of materials, components, supplies, and fuels -----	674 096	(S)	(S)	(S)	(S)	(S)	(S)	(S)	90 778	94 532	193 191
Cost of construction work subcontracted to others -----	2 130 768	(S)	(S)	(S)	(S)	(S)	(S)	(S)	297 432	356 907	845 696
Rental cost for machinery, equipment, and buildings -----	35 096	(S)	(S)	(S)	(S)	(S)	(S)	(S)	5 991	5 551	6 909
Capital expenditures, other than land -----	111 885	(S)	(S)	(S)	(S)	(S)	(S)	(S)	9 105	15 524	38 732
End-of-year gross book value of depreciable assets -----	1 167 595	(S)	(S)	(S)	(S)	(S)	(S)	(S)	147 090	166 696	323 029
<b>1982</b>											
All employees** -----	40 183	(S)	862	1 831	3 783	3 903	4 634	6 175	4 018	4 723	9 041
Total construction receipts <sup>1</sup> -----	2 009 890	(S)	14 071	41 584	127 447	161 732	195 264	312 172	228 093	267 944	652 653
Value added†† -----	1 018 890	(S)	7 363	24 774	75 037	95 724	114 169	162 822	121 809	169 365	242 746
<b>1987 RELATIVE STANDARD ERROR OF ESTIMATE (PERCENT)</b>											
All employees** -----	2	(S)	(S)	(S)	(S)	(S)	(S)	(S)	4	3	1
Net value of construction work† -----	3	(S)	(S)	(S)	(S)	(S)	(S)	(S)	8	9	4
Capital expenditures, other than land -----	9	(S)	(S)	(S)	(S)	(S)	(S)	(S)	25	19	3

Note: Underscored data fields include data from adjoining columns which have been withheld to avoid disclosing data for individual companies.

<sup>1</sup>In earlier censuses construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

Table 7. Value of Construction Work for Establishments With Payroll by Type of Construction: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Type of construction	Value of construction work <sup>1</sup>				Relative standard error of estimate (percent) for column—			
	Total	New construction	Additions, alterations, or reconstruction <sup>2</sup>	Maintenance and repair				
	A	B	C	D	A	B	C	D
<b>1987</b>								
Value of construction work <sup>1</sup>	4 635 921	3 424 156	129 817	1 074 732	2	3	9	3
Building construction	4 392 010	3 205 762	122 941	370 799	3	3	9	19
Single-family houses	2 136 907	2 072 015	43 756	21 135	4	4	20	27
Single-family houses, detached	1 776 942	1 727 780	29 923	19 239	4	4	14	29
Apartment buildings with two or more apartments	359 964	344 235	*13 833	1 895	8	7	54	26
Other residential buildings, including hotels and motels	205 657	167 630	34 719	3 307	14	17	8	30
Hotels and motels	172 684	167 904	2 679	2 100	9	9	15	15
Other residential buildings, excluding hotels and motels	136 285	(D)	(D)	(D)	7	(D)	(D)	(D)
Office buildings	36 399	(D)	(D)	(D)	30	(D)	(D)	(D)
Other commercial buildings such as stores, restaurants, and automobile service stations	153 052	127 812	23 823	1 417	13	15	18	40
Industrial buildings and warehouses	102 962	98 818	3 082	1 061	13	13	18	5
Industrial buildings	107 296	93 874	9 821	3 600	17	18	13	14
Warehouses	59 481	51 661	4 755	3 064	28	30	24	12
Other nonresidential buildings	47 814	42 213	5 066	*535	14	14	9	62
Land development for buildings	49 866	22 622	*262	26 986	26	34	65	37
	1 463 586	(NA)	(NA)	(NA)	3	(NA)	(NA)	(NA)
Nonbuilding construction	236 696	218 393	6 876	11 426	12	12	32	19
Construction work, n.s.k.	7 215	(NA)	(NA)	(NA)	3	(NA)	(NA)	(NA)
<b>1982</b>								
Value of construction work <sup>1</sup>	2 009 890	(S)	(NA)	(S)	1	(S)	(NA)	(S)
Building construction	(S)	(S)	(NA)	(S)	(S)	(S)	(NA)	(S)
Nonbuilding construction	(S)	(S)	(NA)	(S)	(S)	(S)	(NA)	(S)

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

<sup>2</sup>In 1982, data for additions, alterations, or reconstruction were collected separately for SIC 1521, 1522, 1531, 1541, and 1542. For all other industries, data are included with "New construction."

Table 8. Selected Statistics for Establishments With Payroll by Specialization in Types of Construction: 1987

[Thousand dollars. Detail may not add to total due to rounding. This table presents selected statistics for establishments according to degree of specialization in major types of construction work. If number of establishments or value of construction work for a given type of specialization are relatively insignificant, data may not be shown. In addition, data are not shown in this table where distribution of the value of construction work by type of construction was not provided in table 7. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes.]

Item	Number of establishments	All employees**	Payroll, all employees	Value of construction work		Net value of construction work†	Value added††	Cost of construction work subcontracted to others	Relative standard error of estimate (percent) for column—			
				For all types	For specialized type				B	D	H	
	A	B	C	D	E	F	G	H	B	D	H	
All establishments	7 955	39 768	867 427	4 635 921	4 102 163	2 505 153	2 239 891	2 130 768	2	2	3	
Establishments not specializing by type	414	2 454	58 549	263 664	(NA)	125 443	101 798	138 221	2	2	3	
Establishments specializing 51 percent or more	7 540	37 313	808 878	4 372 256	4 102 163	2 379 709	2 138 093	1 992 547	4	11	15	
<b>SINGLE-FAMILY HOUSES, DETACHED</b>												
All establishments specializing in type	1 700	10 119	252 243	1 830 189	1 663 701	824 227	661 831	1 005 961	4	4	4	
Establishments with —												
100 percent specialization	1 444	6 367	151 628	1 093 211	1 093 211	569 103	442 161	524 108	7	6	6	
90 to 99 percent specialization	68	988	32 871	309 598	289 631	94 377	76 543	215 221	5	10	6	
80 to 89 percent specialization	66	886	20 265	89 831	74 176	36 710	23 221	53 121	3	3	5	
70 to 79 percent specialization	59	545	11 393	52 424	39 255	26 114	20 176	26 310	8	15	18	
60 to 69 percent specialization	21	402	9 598	(D)	(D)	(D)	42 113	(D)	15	(D)	(D)	
51 to 59 percent specialization	39	927	26 487	(D)	(D)	(D)	57 616	(D)	2	(D)	(D)	
<b>SINGLE-FAMILY HOUSES, ATTACHED</b>												
All establishments specializing in type	164	1 693	41 924	247 800	220 149	136 179	119 652	111 621	5	13	17	
Establishments with —												
100 percent specialization	113	545	18 568	123 867	123 867	57 498	45 515	66 369	8	19	24	
90 to 99 percent specialization	*18	816	15 210	43 063	38 757	13 490	(D)	29 572	6	21	24	
80 to 89 percent specialization	*11	133	3 695	32 277	25 935	28 167	21 505	4 110	25	40	32	
70 to 79 percent specialization	12	*114	2 655	*19 896	*14 205	*13 166	(D)	*6 730	41	62	72	
60 to 69 percent specialization	*8	84	1 795	28 696	17 383	23 857	27 032	*4 839	21	22	66	
51 to 59 percent specialization	-	-	-	-	-	-	-	-	-	-	-	
<b>APARTMENT BUILDINGS WITH TWO OR MORE APARTMENTS</b>												
All establishments specializing in type	129	1 148	30 412	197 990	178 011	137 095	128 822	60 894	9	15	17	
Establishments with —												
100 percent specialization	54	296	8 647	89 251	89 251	72 998	71 057	16 252	20	30	40	
90 to 99 percent specialization	*10	649	(D)	71 363	64 665	(D)	(D)	(D)	10	13	(D)	
80 to 89 percent specialization	33	65	2 572	8 798	7 333	3 407	(D)	5 390	11	13	6	
70 to 79 percent specialization	-	-	-	-	-	-	-	-	-	-	-	
60 to 69 percent specialization	24	109	(D)	20 881	12 528	(D)	15 107	(D)	29	12	(D)	
51 to 59 percent specialization	*6	*27	*1 204	*7 696	*4 233	*1 279	*1 259	*6 417	59	59	59	
<b>OFFICE BUILDINGS</b>												
All establishments specializing in type	152	745	17 868	116 142	100 050	53 319	55 429	62 823	19	18	23	
Establishments with —												
100 percent specialization	94	269	7 458	61 506	61 506	24 410	32 720	37 095	16	29	37	
90 to 99 percent specialization	*11	42	840	*5 175	*4 728	*2 465	(S)	2 710	37	44	33	
80 to 89 percent specialization	16	126	3 400	24 144	19 339	12 216	11 379	*11 927	30	35	41	
70 to 79 percent specialization	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	
60 to 69 percent specialization	8	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	
51 to 59 percent specialization	*21	173	3 480	16 570	8 936	10 512	8 267	6 057	27	15	10	
<b>LAND DEVELOPMENT FOR BUILDINGS</b>												
All establishments specializing in type	4 915	19 352	365 843	1 454 414	1 440 042	983 136	934 541	471 277	3	3	5	
Establishments with —												
100 percent specialization	4 868	18 915	354 537	1 396 349	1 396 349	952 088	911 196	444 261	3	3	5	
90 to 99 percent specialization	*15	159	2 786	16 998	16 522	8 668	9 282	8 330	34	25	38	
80 to 89 percent specialization	*11	83	4 090	7 769	6 276	(S)	*2 445	6 089	27	20	(W)	
70 to 79 percent specialization	1	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	
60 to 69 percent specialization	*15	*96	*2 066	*28 640	*18 089	(D)	*16 903	*9 366	*11 737	49	48	59
51 to 59 percent specialization	*3	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	

Table 9. Quarterly Construction Worker Hours and Employment for Establishments With

[Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	Number of establishments	Average number of construction workers	Construction worker hours (thousands)	January to March		April to June	
				Construction workers <sup>1</sup>	Hours worked (thousands)	Construction workers <sup>1</sup>	Hours worked (thousands)
	A	B	C	D	E	F	G
United States	7 955	9 312	15 021	8 644	3 418	9 635	3 867
Alabama	107	53	98	60	23	42	22
Alaska	*7	(S)	(S)	(S)	(S)	(S)	(S)
Arizona	224	(S)	(S)	(S)	(S)	(S)	(S)
Arkansas	57	68	122	56	27	65	31
California	1 232	1 383	1 950	1 376	479	1 548	505
Colorado	161	69	*127	47	*19	76	*37
Connecticut	177	267	432	224	84	274	108
Delaware	16	*14	*32	*22	*10	*13	*9
District of Columbia	20	(D)	(D)	(D)	7	(D)	(D)
Florida	847	979	1 509	960	397	978	383
Georgia	284	273	426	258	96	272	112
Hawaii	39	73	137	75	32	67	31
Idaho	23	(D)	(D)	(D)	(D)	(D)	(D)
Illinois	274	293	489	272	111	305	127
Indiana	86	180	244	122	31	200	70
Iowa	28	(S)	(S)	*23	(S)	(S)	(S)
Kansas	21	*23	(S)	(S)	(S)	(S)	(S)
Kentucky	37	18	*25	*17	*5	18	*6
Louisiana	98	*189	*461	167	*98	*193	*130
Maine	32	22	*51	21	*11	19	*11
Maryland	193	175	359	132	65	179	87
Massachusetts	247	(S)	(S)	(S)	(S)	(S)	(S)
Michigan	107	125	200	116	55	133	44
Minnesota	78	(S)	(S)	(S)	(S)	(S)	(S)
Mississippi	45	*11	(S)	(S)	(S)	*9	(S)
Missouri	115	82	93	81	19	92	27
Montana	*5	(S)	(S)	(S)	(S)	(S)	(S)
Nebraska	30	*47	(S)	*29	*3	*59	(S)
Nevada	47	(S)	(S)	(S)	(S)	(S)	(S)
New Hampshire	76	*128	*349	91	*62	*121	*82
New Jersey	209	654	1 148	576	237	675	284
New Mexico	56	(S)	(S)	(S)	(D)	(S)	(S)
New York	467	(S)	(S)	(S)	(S)	(S)	(S)
North Carolina	270	349	625	361	146	347	175
North Dakota	-	-	-	-	-	-	-
Ohio	135	102	158	66	18	109	36
Oklahoma	77	(S)	(S)	(D)	(S)	(D)	(S)
Oregon	83	*18	*35	*9	*5	*20	*7
Pennsylvania	135	218	390	218	98	212	95
Rhode Island	35	*60	42	*52	*9	*61	*9
South Carolina	107	74	135	74	29	73	34
South Dakota	6	(S)	(S)	(D)	(D)	(D)	(S)
Tennessee	123	(S)	(S)	(S)	(S)	(S)	(S)
Texas	968	(S)	(S)	(S)	(S)	(S)	(S)
Utah	51	*22	(S)	*27	(S)	*27	(S)
Vermont	32	102	(D)	99	38	(D)	(D)
Virginia	199	410	632	391	147	398	158
Washington	174	224	333	252	81	251	81
West Virginia	*27	(S)	(S)	(S)	(S)	(S)	(S)
Wisconsin	66	31	*64	27	*13	*22	*16
Wyoming	*4	(S)	(S)	(S)	(S)	(S)	(S)

<sup>1</sup>Construction workers during pay periods including 12th of March, May, August, and November.

# Payroll by State: 1987

July to September		October to December		Relative standard error of estimate (percent) for column—												Location of establishment	
Construction workers <sup>1</sup>	Hours worked (thousands)	Construction workers <sup>1</sup>	Hours worked (thousands)														
H	I	J	K	B	C	D	E	F	G	H	I	J	K				
10 174	4 069	8 810	3 665	3	4	3	4	3	4	3	4	3	4	3	4	U.S.	
63 (S)	30 (S)	45 (S)	21 (S)	25 (S)	35 (S)	24 (S)	32 (S)	26 (S)	38 (S)	28 (S)	39 (S)	26 (S)	37 (S)	26 (S)	37 (S)	AL	
(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	AK	
79	32	73	30	21	36	24	39	23	36	23	35	23	36	23	36	AZ	
1 424	507	1 185	457	9	10	8	9	10	10	11	11	11	11	10	10	AR	
(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	CA	
77	*34	74	*34	33	51	32	45	36	55	35	55	30	48	30	48	CO	
312	124	258	114	13	14	12	15	14	15	15	17	12	14	12	14	CT	
*9	*5	*10	*6	58	64	64	67	60	66	42	55	58	64	58	64	DE	
16	6	(D)	(D)	(D)	(D)	(D)	(W)	(D)	(D)	(W)	3	(D)	(D)	(D)	(D)	DC	
1 006	362	972	366	4	7	5	7	4	7	5	6	5	5	6	5	FL	
304	119	258	97	12	14	13	14	13	18	12	14	12	11	12	11	GA	
75 (D)	37 (D)	77 (D)	35 (D)	8	14	6	10	7	12	10	20	13	19	13	19	HI	
307	129	286	120	21	21	16	17	23	24	28	27	20	21	(D)	(D)	ID	
261	92	137	51	25	32	23	35	28	34	27	32	24	33	24	33	IL	
(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	IN	
19	*6	21	7	38	43	42	47	39	45	37	42	34	38	34	38	KY	
*213	*135	*182	*12	42	47	40	45	42	47	43	52	44	50	44	50	LA	
28	*15	22	24	51	24	50	26	53	24	51	23	50	50	50	50	ME	
195	104	195	102	20	27	21	29	21	28	20	26	20	27	20	27	MD	
(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	MA	
127	49	124	52	27	31	28	32	33	29	28	33	29	33	29	33	MI	
(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	MN	
(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	MS	
85	23	72	23	21	25	24	27	25	30	20	24	20	23	20	23	MO	
(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	MT	
*68	(S)	(S)	*33	*3	52	58	66	51	51	51	52	60	60	52	60	NE	
*130	*90	*168	*114	44	51	36	44	41	50	45	50	52	59	52	59	NH	
706	313	660	313	7	10	5	7	9	10	9	13	7	13	13	13	NJ	
(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	NM	
353	156	336	146	13	16	13	17	13	15	13	14	14	18	14	18	NC	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	
127	*53	*106	*50	34	40	36	37	34	37	37	44	41	53	41	53	OH	
(S)	(S)	(S)	(S)	(S)	(S)	(D)	(S)	(D)	(S)	OK							
*25	*12	*20	*10	47	54	50	60	50	51	44	51	50	59	51	59	OR	
234	102	206	93	14	20	14	20	16	21	14	21	13	21	13	21	PA	
*62	14	*66	*9	57	39	59	44	62	42	50	35	58	42	58	42	RI	
83	38	69	33	(W)	5	(W)	5	(W)	4	(W)	5	(W)	4	(W)	4	SC	
(S)	(S)	(S)	(S)	(S)	(S)	(D)	(S)	(D)	(S)	SD							
(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	TN	
*13	(S)	*22	(S)	58	(S)	59	(S)	59	(S)	47	(S)	70	(S)	(S)	(S)	UT	
(D)	(D)	100	47	5	(D)	6	7	(D)	(D)	(D)	(D)	6	5	6	5	VT	
424	157	426	169	8	14	9	15	9	15	8	12	9	14	9	14	VA	
236	89	175	80	25	30	27	31	31	31	26	31	22	36	22	36	WA	
(D)	(D)	(D)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(D)	(D)	(D)	(D)	(D)	(D)	WV	
*49	*20	*28	*13	40	55	36	47	44	60	43	51	44	64	44	64	WI	
(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	WY	

Table 10. **Value of Construction Work for Establishments With Payroll by Location of Construction Work: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of construction work	1987					1982 construction receipts for work done in this State <sup>1</sup>	Percent change 1987 (col A) to 1982 (col F)	Relative standard error of estimate (percent) for column—									
	Value of construction work done in this State <sup>1</sup>	Construction work done by establishments located in this State		Construction work done by establishments not located in this State													
		Number	Value of construction work	Number	Value of construction work			A	B	C	D	E	F	G	A	C	E
United States	4 635 921	7 198	4 394 990	436	240 931	2 009 890	130.7	2	2	2	7						
Alabama	24 842	102	24 842	—	—	10 920	127.5	14	14	—							
Alaska	(S)	7	(S)	—	—	12 550	(S)	(S)	(S)	—							
Arizona	116 019	182	114 262	*9	1 757	49 216	135.7	15	16	3							
Arkansas	38 644	52	*17 198	13	21 445	12 268	215.0	25	42	31							
California	1 107 940	1 108	1 100 743	6	7 196	365 382	203.2	4	4	(W)							
Colorado	136 690	117	127 977	6	8 713	99 301	37.7	7	7	(W)							
Connecticut	67 976	164	67 076	3	900	13 106	418.7	13	13	(W)							
Delaware	*17 734	16	*17 734	—	—	—	—	62	62	—							
District of Columbia	10 578	20	10 578	—	—	5 070	108.6	28	28	—							
Florida	545 129	766	493 845	32	51 284	278 414	95.8	6	6	19							
Georgia	251 657	244	229 302	7	22 355	64 384	290.9	15	16	33							
Hawaii	22 266	34	21 249	*6	*1 017	25 594	-13.0	5	4	62							
Idaho	2 203	17	1 186	*6	*1 017	2 600	-15.3	30	14	62							
Illinois	127 995	263	(D)	*18	(D)	42 571	200.7	10	(D)	(D)							
Indiana	44 940	85	44 940	—	—	9 197	388.6	29	29	—							
Iowa	*3 070	28	*3 070	—	—	23 896	-87.2	61	61	—							
Kansas	*51 067	21	*40 787	20	10 280	5 870	770.0	59	74	21							
Kentucky	5 147	30	5 147	—	—	7 094	-27.4	14	14	—							
Louisiana	*25 372	82	*24 097	*5	(S)	26 410	-3.9	45	48	(S)							
Maine	14 592	32	(D)	*12	(D)	1 016	1 336.2	11	(D)	(D)							
Maryland	132 535	182	(D)	*6	(D)	30 942	328.3	18	(D)	(D)							
Massachusetts	107 615	209	107 615	—	—	15 925	575.8	11	11	—							
Michigan	51 766	107	(D)	1	(D)	13 135	294.1	14	(D)	(D)							
Minnesota	45 124	78	(D)	1	(D)	11 475	293.2	12	(D)	(D)							
Mississippi	*13 212	38	*13 152	60	60	6 020	119.5	62	62	24							
Missouri	29 334	114	(D)	2	(D)	29 944	-2.0	22	(D)	(D)							
Montana	(S)	5	(S)	—	—	(D)	(D)	(S)	(S)	—							
Nebraska	7 300	30	7 300	—	—	455	1 504.4	36	36	—							
Nevada	33 476	41	31 494	*16	1 982	33 316	.5	21	23	8							
New Hampshire	28 524	76	25 365	*14	*3 159	3 519	710.6	34	37	61							
New Jersey	232 711	187	232 711	—	—	25 474	813.5	8	8	—							
New Mexico	4 163	56	(D)	2	(D)	10 975	-62.1	28	(D)	(D)							
New York	168 876	433	161 640	23	*7 235	45 719	269.4	13	14	43							
North Carolina	134 167	240	125 342	20	8 825	37 256	260.1	11	11	11							
North Dakota	—	—	—	—	—	(S)	—	—	—	—							
Ohio	36 766	128	(D)	7	(D)	29 487	24.7	23	(D)	(D)							
Oklahoma	15 663	61	13 190	7	2 473	20 338	-23.0	26	30	(W)							
Oregon	27 943	71	(D)	2	(D)	9 227	202.8	21	(D)	(D)							
Pennsylvania	49 138	124	49 138	—	—	25 699	91.2	8	8	—							
Rhode Island	18 987	35	*15 871	*3	(S)	1 774	970.3	38	43	(S)							
South Carolina	54 646	97	51 336	28	3 310	55 868	-2.2	4	4	27							
South Dakota	1 209	6	(D)	2	(D)	(D)	(D)	4	(D)	(D)							
Tennessee	71 960	112	69 226	25	2 733	16 300	341.5	23	24	30							
Texas	478 460	875	478 005	*8	454	441 048	8.5	7	7	22							
Utah	26 166	42	10 345	39	15 820	14 211	84.1	22	40	26							
Vermont	14 171	32	14 171	—	—	(D)	(D)	13	13	—							
Virginia	137 389	174	(D)	3	(D)	40 569	238.7	15	(D)	(D)							
Washington	76 431	172	(D)	3	(D)	15 961	378.9	13	(D)	(D)							
West Virginia	*1 204	*16	*1 204	—	—	2 951	-59.2	49	49	—							
Wisconsin	*22 364	66	*20 109	*15	(S)	4 430	404.8	41	45	(S)							
Wyoming	*69	*4	*69	—	—	3 399	-98.0	49	49	—							

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

**Table 11. Dollar Value of Business Done for Establishments With Payroll by Kind of Business Activity: 1987 and 1982**

[Thousand dollars. Detail may not add to total due to rounding. Based on their primary business activity or combination of activities, establishments were classified into this specific industry. These establishments, however, may also be engaged in other kinds of business activities. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Primary and other kinds of business activities	Dollar value of business done <sup>1</sup>		Relative standard error of estimate (percent)	
	1987	1982	1987	1982
All kinds of business.....	7 527 764	3 424 531	2	1
General building contractor .....	101 458	(S)	11	(S)
Operative builder .....	236 660	(S)	8	(S)
Subdivider and developer .....	3 425 571	(S)	3	(S)
Other construction activities .....	199 074	(S)	8	(S)
Real estate agents and managers .....	66 259	(S)	8	(S)
Sale of land .....	2 162 101	(S)	2	(S)
Investment builder .....	42 666	(S)	13	(S)
Other activities .....	225 173	(S)	3	(S)
Kind of business activity, n.s.k. ....	1 068 802	(S)	4	(S)

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

Table 12. Selected Industry Ratios for Establishments With Payroll: 1987 and 1982

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

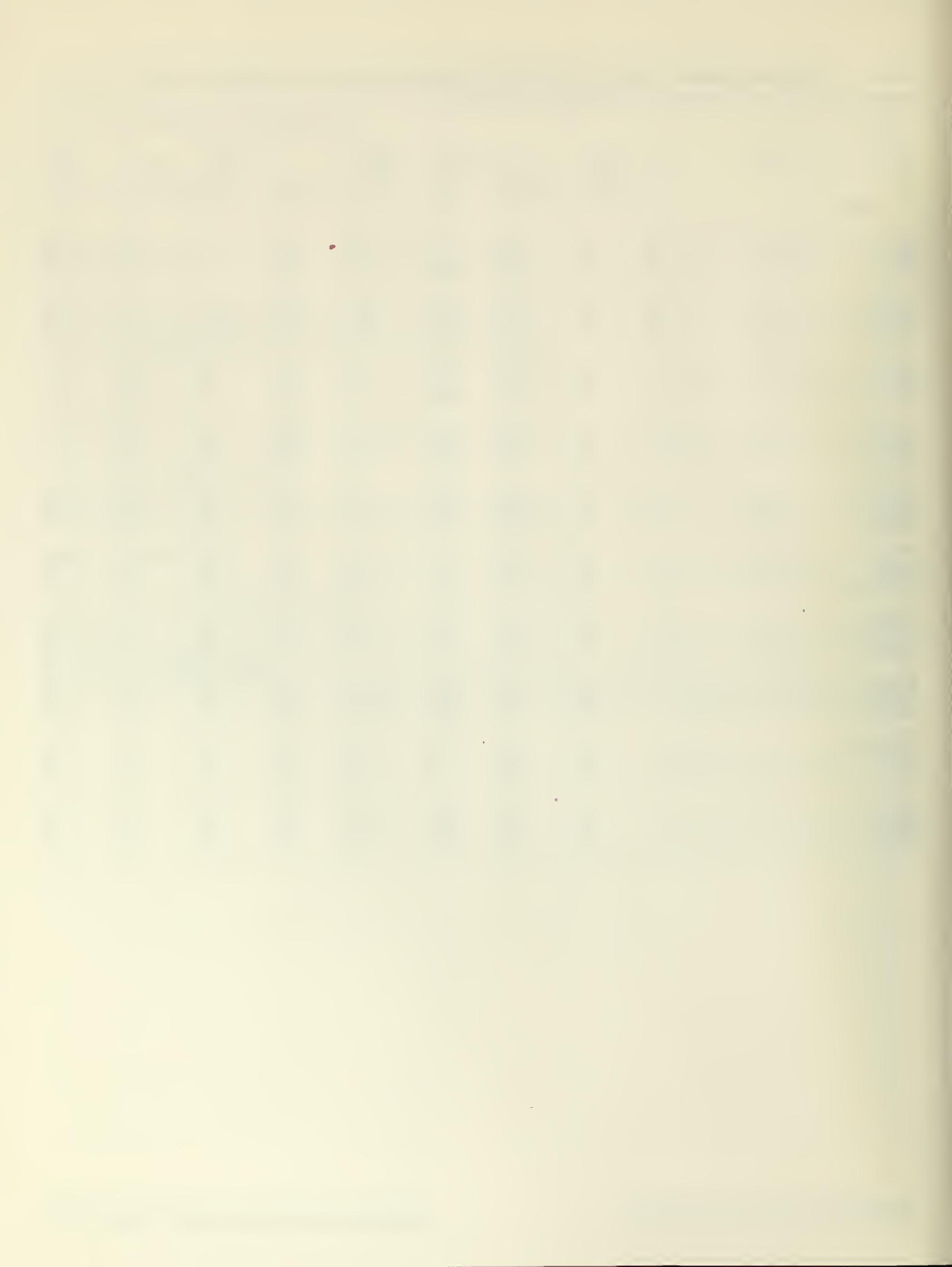
Selected statistics	1987	1982	Relative standard error of estimate (percent) for 1987
<b>AVERAGE PER ESTABLISHMENT</b>			
Number of employees**	5.0	6.8	2
Number of construction workers	1.2	2.6	3
Number of all other employees	3.8	(NA)	2
Payroll, all employees	\$1,000	109.0	2
Payroll, construction workers	do	19.2	2
Payroll, other employees	do	89.8	3
Dollar value of business done	do	946.3	2
Value of construction work <sup>1</sup>	do	582.8	2
Cost of materials, components, supplies, and fuels	do	84.7	4
Construction work subcontracted to others	do	267.9	3
Rental cost for machinery, equipment, and buildings	do	4.4	3
Capital expenditures, other than land	do	14.1	9
Gross book value of depreciable assets	do	146.8	5
<b>AVERAGE PER EMPLOYEE</b>			
Payroll, all employees	do	21.8	1
Dollar value of business done	do	189.3	2
Value added††	do	56.3	2
<b>AVERAGE PER CONSTRUCTION WORKER</b>			
Payroll, construction workers	do	16.4	1
Value of construction work <sup>1</sup>	do	497.8	3
Construction worker hours	1 613.1	1 666.7	3
<b>AVERAGE PER OTHER EMPLOYEE</b>			
Payroll, other employees	\$1,000	23.5	1
<b>AVERAGE PER DOLLAR VALUE OF CONSTRUCTION WORK<sup>1</sup></b>			
Payroll, all employees		.187	2
Cost of materials, components, supplies, and fuels		.145	3
Cost of construction work subcontracted to others		.460	2
Rental cost for machinery, equipment, and buildings		.008	3
.283	.212	.372	
.009			

<sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

Table 13. Selected Industry Ratios for Establishments With Payroll by State: 1987

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Location of establishment	Average number of employees** per establishment	Payroll per employee (\$1,000)	Construction worker hours per construction worker	Value of construction work per construction worker (\$1,000)	Average per dollar of value of construction work			
					Payroll, all employees	Cost of materials, components, supplies, and fuels	Cost of construction work subcontracted to others	Rental cost for machinery, equipment, and buildings
United States -----	5.0	21.8	1 613.1	497.8	.187	.145	.460	.008
Alabama -----	3.0	16.1	1 849.1	468.7	.209	.179	.435	.012
Alaska -----	(S)	(S)	(S)	(D)	(D)	(D)	(D)	(D)
Arizona -----	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Arkansas -----	2.6	17.4	1 794.1	*254.9	*.148	*.119	*.584	*.007
California -----	5.4	24.2	1 410.0	799.2	.147	.106	.529	.008
Colorado -----	5.3	24.3	*1 840.6	1 982.4	.153	.106	.614	.008
Connecticut -----	4.8	23.1	1 618.0	257.3	.284	.231	.369	.005
Delaware -----	4.0	17.8	*2 285.7	*1 266.7	*.064	*.062	*.443	*.002
District of Columbia -----	*11.6	*11.8	(D)	(D)	*.260	(D)	(D)	.006
Florida -----	6.2	21.9	1 541.4	508.4	.233	.138	.421	.008
Georgia -----	6.6	24.1	1 560.4	922.9	.179	.148	.582	.005
Hawaii -----	7.9	19.6	1 876.7	291.1	.285	.199	.280	.024
Idaho -----	2.5	9.4	(D)	(D)	.461	(D)	(D)	.009
Illinois -----	3.9	20.9	1 668.9	350.8	.219	.142	.353	.006
Indiana -----	4.8	15.4	1 355.6	249.7	.142	.149	.248	.002
Iowa -----	*3.1	*13.9	(S)	(S)	*.317	*.180	*.250	*.002
Kansas -----	*2.9	*22.8	(S)	*1 773.3	*.034	(S)	*.446	(D)
Kentucky -----	2.9	15.6	*1 388.9	356.8	.265	.184	.303	.005
Louisiana -----	*4.2	*15.4	*2 439.2	*129.1	*.260	*.159	*.410	*.006
Maine -----	5.8	21.2	*2 318.2	711.2	.251	.130	.318	.005
Maryland -----	5.7	22.1	2 051.4	749.5	.184	.132	.446	.002
Massachusetts -----	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Michigan -----	4.5	23.6	1 600.0	377.4	.239	*.126	.438	.003
Minnesota -----	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Mississippi -----	2.0	*17.6	(S)	*1 195.7	*.118	*.290	*.496	(S)
Missouri -----	3.3	18.6	1 134.1	367.9	.238	.253	.231	.005
Montana -----	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Nebraska -----	5.8	*14.3	(S)	*158.6	*.333	*.347	*.221	*.009
Nevada -----	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
New Hampshire -----	4.0	20.4	*2 726.6	*207.5	.231	.210	*.451	*.006
New Jersey -----	11.5	22.0	1 755.4	361.3	.225	.281	.527	.004
New Mexico -----	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
New York -----	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
North Carolina -----	4.0	20.3	1 790.8	364.3	.173	.218	.488	.008
North Dakota -----	-	-	-	-	-	-	-	-
Ohio -----	3.2	16.2	1 549.0	391.3	.175	*.190	.317	*.010
Oklahoma -----	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Oregon -----	2.5	13.9	*1 944.4	*2 008.2	.079	.038	.213	.013
Pennsylvania -----	4.5	18.2	1 789.0	225.7	.226	.262	.333	.007
Rhode Island -----	*6.2	*18.1	*700.0	*264.5	*.247	*.158	*.309	*.007
South Carolina -----	3.3	21.2	1 824.3	804.3	.126	.141	.486	.008
South Dakota -----	(D)	(D)	(S)	(D)	(D)	(D)	(D)	(D)
Tennessee -----	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Texas -----	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Utah -----	2.0	18.3	(S)	*515.6	.164	*.205	.427	.005
Vermont -----	9.9	19.5	(D)	138.9	.436	.254	.167	.004
Virginia -----	5.9	21.3	1 541.5	341.6	.179	.212	.560	.006
Washington -----	3.9	17.0	1 486.6	303.1	.169	.203	.361	.012
West Virginia -----	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Wisconsin -----	2.1	17.4	*2 064.5	*648.7	*.121	*.131	*.443	*.003
Wyoming -----	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)



## APPENDIX A.

# Explanation of Terms

**Construction**—Is composed of three broad categories:

1. **New construction**—Includes the complete, original erection of structures and essential service facilities and the initial installation of integral equipment such as elevators, and plumbing, heating, and air-conditioning supplies and equipment.
2. **Additions, alterations or reconstruction**—Includes construction activity making structural changes to existing facilities. Generally, this type of activity is considered a capital investment in the property.
3. **Maintenance and repair**—Includes construction done for the purpose of upkeep of property rather than additional investment in the property.

Examples of the general distinction between maintenance and repair and reconstruction are provided here: roof repairs, including the replacement of shingles, gutters, etc., are classified under maintenance and repairs. A complete reroofing, however, is classified as reconstruction.

**Number of establishments in business during year**—Includes all establishments that were in business at any time during the year. It covers all full-year and part-year operations. Construction establishments which were inactive or idle for the entire year were not included.

**Proprietors and working partners**—These data were not collected on the census report forms. The data shown are based on crediting each sole proprietorship establishment with one active proprietor and each partnership establishment with two working partners.

**All employees**—Comprise all full-time and part-time employees on the payrolls of construction establishments, who worked or received pay for any part of the pay period including the 12th of March, May, August, and November. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included, but proprietors and partners of unincorporated firms are not.

All employees is the sum of all employees during the pay periods including the 12th of March, May, August, and November, divided by 4.

**Construction workers**—Includes all workers up through the working foreman level directly engaged in construction operations, such as painters, carpenters, plumbers, and electricians. Included are journeymen, mechanics, apprentices, laborers, truck drivers and helpers, equipment

operators, and on-site record keepers and security guards. Supervisory employees above the working foreman level are excluded from this category but are included in the "other employees" category.

**Other employees**—Includes employees in executive, purchasing, accounting, personnel, professional, technical activities, and routine office functions. Also included are supervisory employees above the working foreman level.

**Construction worker hours**—Includes the total number of hours worked by construction workers. Construction worker hours were collected for each of the four quarters of 1987.

**Payroll**—Includes the gross earnings paid in the calendar year 1987 to all employees on the payroll of construction establishments. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation, but excludes payments to the proprietor or partners, if an unincorporated concern.

**Employer costs for fringe benefits (supplemental labor costs)**—Represents expenditures made by the employer during 1987 for legally required and voluntary fringe benefit programs for employees.

**Legally required contributions**—Include Social Security contributions, unemployment compensation, workman's compensation, and State temporary disability payments.

**Voluntary payments**—Include life insurance premiums, pension plans, insurance premiums on hospital and medical plans, welfare plans, and union negotiated benefits.

Dollar value of business done comprises the following detail:

**Value of construction work done**—Includes all value of construction work done during 1987 for construction work performed by general contractors, special trades contractors, subcontractors, and land development and improvement work. Included is new construction, additions and alterations or reconstruction, and maintenance and repair construction work. Also included is the value of any construction work done by the reporting establishments for themselves.

Builders were instructed to include the value of buildings and other structures built or being built for sale in 1987 but not sold. They were to include the costs of such construction plus normal profit. Also included is the cost of construction work done on buildings for rent or lease.

Establishments engaged in the sale and installation of such construction components as plumbing, heating, and central air conditioning supplies and equipment; lumber and building materials; paint, glass, and wallpaper; and electrical and wiring supplies, elevators or escalators, etc., were instructed to include both the value for the installation and the receipts covering the price of the items installed.

Excluded was the cost of industrial and other specialized machinery and equipment which are not an integral part of a structure.

**Land receipts**—Includes receipts from the sale of land, whether held for sale or sold in connection with the sale of houses and other structures. It excludes the value of any improvements made to the land prior to the sale. (That value was to be included in the value of construction work done.)

**Other business receipts**—Includes business receipts not reported as value of construction work done or land receipts. The item includes business receipts from retail and wholesale trade, rental of equipment, manufacturing, transportation, legal service, insurance, finance, rental of property and other real estate operations, and other nonconstruction activities. Receipts for separately definable architectural and engineering work for others are also included here.

Excluded was the value of construction work done and receipts from other business operations in foreign countries and non-operating income such as interest and dividends.

**Net value of construction work**—Derived for each establishment by subtracting the costs for construction work subcontracted to others from the value of construction work done. (For a further explanation see "Duplication in Value of Construction Work" section in the Introduction.)

**Value added**—Derived for each establishment, value added is equal to dollar value of business done, less costs for construction work subcontracted to others, and costs for materials, components, supplies and fuels. For SIC 6552 and SIC 1531, for which land receipts are significant, land receipts are also subtracted from dollar value of business done. (For a further explanation see "Duplication in Value of Construction Work" section in the Introduction.)

**Selected costs**—Represents the costs for materials, components, and supplies; costs for construction work subcontracted to others; and costs for selected power, fuels, and lubricants. Capital expenditures and rental costs for machinery, equipment, and structures are shown elsewhere.

Costs for materials, components, and supplies include:

- total costs to reporting establishments during 1987 for the purchase of all materials, components, and supplies, except fuels. (Supplies include expendable tools which are charged to current accounts.)
- freight and other direct charges should represent only amount paid after discounts, and the value of materials, components, and supplies obtained from other establishments of the respondent's company.
- costs for materials, components, and supplies used by the reporting establishments in the construction or reconstruction of buildings/structures for themselves which are chargeable to their fixed assets accounts, are included in this item as are costs for materials bought and resold to others.
- costs made for direct purchases of materials, components, and supplies even though the purchases were subsequently provided to subcontractors for their use.

Excluded from this item are:

- industrial and other specialized machinery and equipment, such as printing presses; computer systems; etc., which are not an integral part of a structure
- materials furnished to contractors by the owners of projects.

Costs for construction work subcontracted to others include:

- all costs during 1987 for construction work subcontracted out to other construction contractors.

Excluded from this item are:

- The costs to the reporting establishment for its purchases of materials, components, and supplies, provided to a subcontractor for his use. Such costs are reported under a separate category, "costs for materials, components, and supplies."
- costs for the rental of machinery or equipment.

Costs for selected power, fuels, and lubricants include:

- costs for fuels, lubricants, and electric energy purchased during the year from other companies, or received from other establishments of the company.
- costs for natural and manufactured gas, fuel oil, coal and coke products, etc.

**Rental costs for machinery, equipment, and buildings**—Includes all costs during 1987 for renting or leasing construction machinery and equipment, transportation equipment, production equipment, office equipment, furniture and fixtures, scaffolding, office space, and buildings. It

excludes costs for the rental of land. It also excludes costs under agreements which, in effect, are conditional sales contracts such as capital leases. Such costs are included in "capital expenditures."

**Selected purchased services**—Includes all costs during 1987 for communication services purchased from other companies or from other establishments of the company. It also includes the cost of all repairs made to structures and equipment by outside companies, or from other establishments of the same company. It includes only the cost of that repair necessary to maintain property and equipment. It excludes the cost of improvements that increase the value of property, or the cost of adapting it for another use. Such costs are included in "capital expenditures".

**Assets and depreciation**—Refers to the original cost of all fixed tangible assets such as buildings and other structures (offices, shops, etc.); stationary machinery (generators, shop equipment, etc.); mobile machinery (tractors, trucks, etc.); and other equipment (office furniture and fixtures, etc.). Not included are such items as current assets, depletable assets, intangible assets, and nondepreciable assets.

Data on assets and depreciation were collected separately for: (1) buildings and other structures, additions, and related facilities; and, (2) machinery and equipment.

Respondents were also asked to report capitalized expenditures, depreciation charges, and the gross value of assets sold, retired, scrapped, destroyed, etc., during 1987.

**Capital expenditures**—Refers to all costs actually incurred during 1987 which were or would be chargeable to the fixed assets accounts of the reporting establishments and which were of the type for which depreciation accounts are ordinarily maintained. These expenditures cover the acquisition, the construction, and the major alteration of the reporting establishment's own buildings and other structures, whether purchased, constructed under contract, or constructed by the reporting establishment's own forces; and the acquisition of machinery and equipment.

If leasing arrangements met the criteria set down by the Financial Accounting Standards Board (FASB) for a capital lease, respondents were instructed to report the original cost or market value of that equipment or building as a fixed asset and capital expenditure if acquired during 1987.

If capital expenditures were not recorded directly at the establishment level but handled centrally at the company or division level, respondents were requested to report appropriate estimates for the individual establishments.

**Inventories**—Includes all of the materials and supplies that are owned regardless of where they are held. Excludes materials which are owned by others, but held by the reporting establishment.

Builders who built on their own account for sale were requested to report work in progress and finished units not sold for buildings and other structures built for sale.

Inventories of multi-establishment companies were instructed to be reported by the establishment that is responsible for the inventories even if these inventories were held at a separate location.

**Ownership of construction projects**—This item shows the distribution of the value of construction work done by ownership of the project, that is, Government owned or privately owned. This classification relates to the ownership of the projects or work undertaken during the construction phase. Government owned projects are shown separately for Federal, and State and local governments.

**Value of construction work subcontracted in from others**—Includes the value of construction work during 1987 for work done by reporting establishments for other construction contractors or builders. Establishments were asked to report the approximate percent of total value of construction work accounted for by such work, and the percentages reported were applied to the reported value of construction work to develop a value for this item.

**Types of construction**—This item provides data by the types of buildings, structures, or other facilities being constructed or worked on by construction establishments in 1987. Respondents were instructed that each building, structure, or other facility should be classified in terms of its function. For example, a restaurant building was to be classified in the restaurant category whether it was designed as a commercial restaurant building or an auxiliary unit of an educational institution. If respondents worked on more than one type of building or structure in a multibuilding complex, they were instructed to report separately for each building or type of structure. If they worked on a building that had more than one purpose, i.e, office and residential, or commercial, they were to classify the building by major purpose.

In addition all respondents were requested to report the percentage of the value of construction work done for new construction, additions, alterations, or reconstruction, and maintenance and repair work for each of these types. See the definition of "Construction" for the meanings of these terms.

#### Building construction:

- **Single-family houses, detached**—Includes all residential buildings constructed for one family use.
- **Single-family houses, attached (include townhouses)**—Includes all residential buildings with two or more living quarters side by side, completely independent of one another, and separated by an unbroken wall from ground to roof.
- **Apartment buildings with two or more apartments**—Includes high-rise, low-rise, or any structures containing two or more housing units (excluding attached single-family houses and townhouses described above).
- **Hotels and motels**—Includes hotels, motels, and tourist cabins intended for transient accommodations.

- **Other residential buildings**—Includes dormitories, fraternity and sorority houses, nurses homes, and other nonhousekeeping residential structures.
- **Office buildings**—Includes all buildings which are used primarily for office space or for government administrative offices. Also included are banks or financial buildings which are three stories or more.
- **Other commercial buildings, such as stores, restaurants, and automobile service stations**—Includes all buildings which are intended for use primarily in the wholesale, retail, and service trades. For example, shopping centers, department stores, drug stores, restaurants, public garages, auto service stations, and one or two story bank or financial institutions.
- **Industrial buildings**—Includes all industrial buildings and plants which are used to house production and assembly activities. Heavy industrial facilities such as blast furnaces, petroleum refineries, chemical complexes, etc., are not included in this category, but under nonbuilding construction.
- **Warehouses**—Includes commercial warehouses, cold storage plants, grain elevators, mini-warehouses, and other such storage buildings.
- **Religious buildings**—Includes all buildings which are intended for religious services or functions, such as churches, synagogues, convents, monasteries, and seminaries.
- **Educational buildings**—Includes all buildings which are used directly in administrative and instructional activities, such as colleges, universities, elementary and secondary schools, correspondence, commercial, and trade schools. Libraries, museums, and art galleries, as well as laboratories which are not a part of a manufacturing establishment, are also included.
- **Hospitals and institutional buildings**—Includes all buildings which are intended to provide hospital and institutional care, such as clinics, infirmaries, sanitariums, nursing homes, homes for the aged, and orphanages.
- **Farm buildings, nonresidential**—Includes nonresidential farm buildings such as barns, poultry houses, implement sheds, and farm silos.
- **Amusement, social, and recreational buildings**—Includes buildings which are used primarily for entertainment, social and recreational activities, such as sports arenas, theaters, music halls, golf and country club buildings, skating rinks, bowling alleys, and indoor swimming pools.
- **Other nonresidential buildings**—Includes nonresidential buildings which are not classified elsewhere, such as fire stations, prisons, civic centers, bus and air passenger terminals and hangars.

#### Nonbuilding construction:

- **Highways, streets and related work, such as installation of guardrails, highway signs, etc.**—Includes streets, roads, alleys, sidewalks, curbs and gutters, culverts, right-of-way drainage, erosion control and lighting. Also includes earthwork protective structures when used in connection with road improvements.
- **Outdoor swimming pools**—Includes wading pools and reflecting pools.
- **Recreational facilities**—Includes athletic fields, golf courses, outdoor tennis courts, trails, and camps.
- **Bridges and elevated highways**—Includes viaducts and overpasses; roads, highways, railroads, and causeways built on structural supports.
- **Tunnels**—Includes highway, pedestrian, and railroad tunnels.
- **Railroad construction**—Includes the construction of railroad beds, tracks, freight yards, and signal towers.
- **Subway construction**—Includes urban mass transit subway systems above or below ground.
- **Dam and reservoir construction**—Includes hydroelectric, water supply, and flood control dams and reservoirs.
- **Marine construction**—Includes dredging, underwater rock removal, breakwaters, navigational channels, jetties, and locks.
- **Harbor and port facilities**—Includes docks, piers, and wharves.
- **Conservation and development construction**—Includes land reclamation, irrigation projects, drainage canals, levees, and flood control projects.
- **Power and communication transmission lines, towers, and related facilities**—Includes electric power lines, telephone and telegraph lines, fiber optic cables, cable television lines, television and radio towers, electric light and power facilities.
- **Power plants, except nuclear**—Includes electric and steam generating plants.
- **Power plants, nuclear**—Includes atomic energy plants, and nuclear reactors.
- **Sewers, sewerlines, and related facilities**—Includes sanitary and storm sewers, and related facilities.
- **Sewage treatment plants**—Includes sewage treatment and waste disposal plants.
- **Water mains and related facilities**—Includes water supply systems and related facilities.

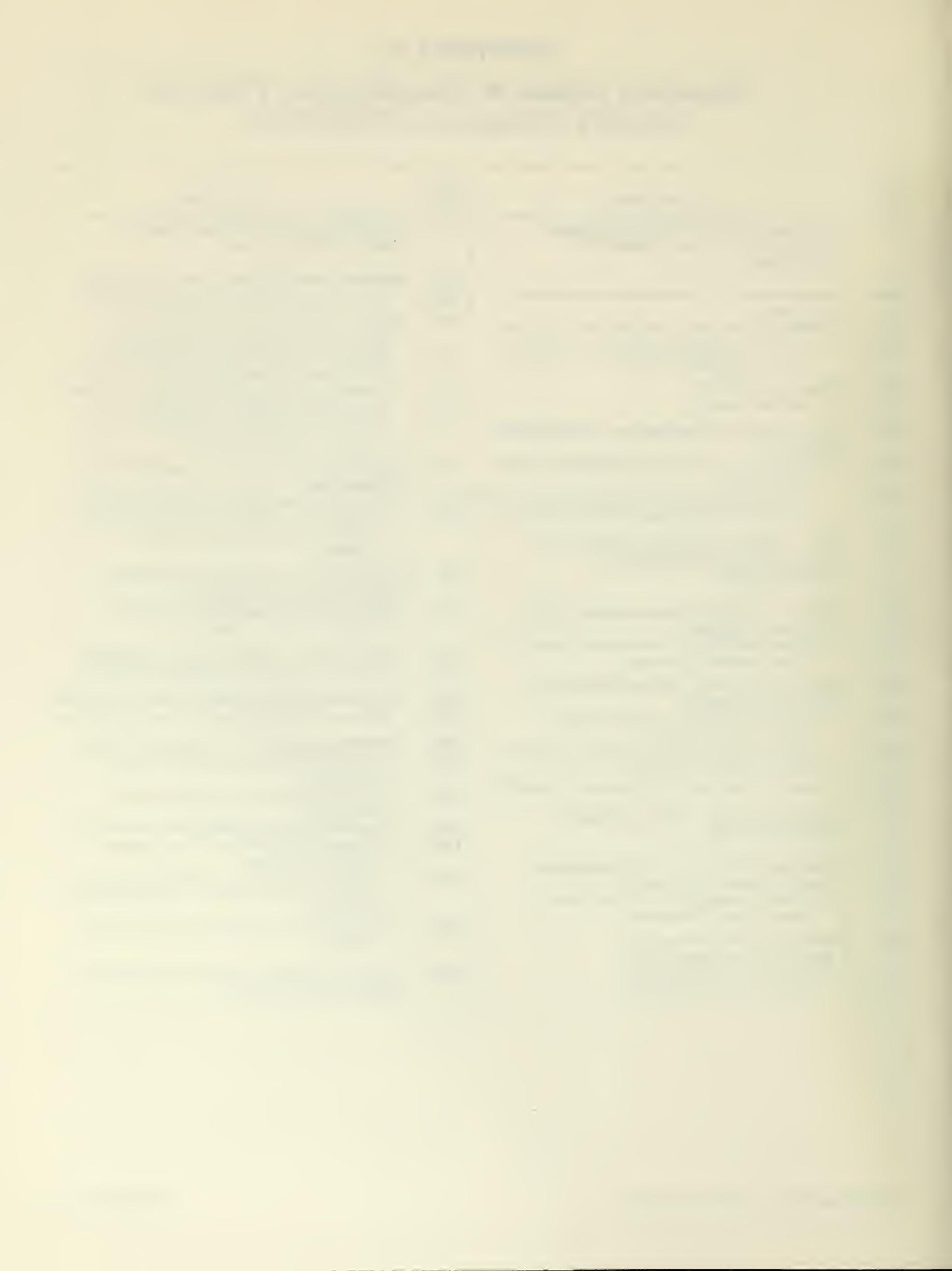
- **Water treatment plants**—Includes water filtration and water softening plants.
- **Pipeline construction other than sewer or waterlines**—Includes pipelines for the transmission of gas, petroleum products, and liquefied gases.
- **Blast furnaces, petroleum refineries, chemical complexes, etc.**—Includes coke ovens, and mining appurtenances such as tipples and washeries.
- **Other nonbuilding construction**—Includes all types of nonbuilding construction, not included elsewhere.



# APPENDIX B.

## Standard Industrial Classification Titles for Industry Groups and Industries

SIC code	Industry titles	SIC code	Industry titles
15	<b>BUILDING CONSTRUCTION—GENERAL CONTRACTORS AND OPERATIVE BUILDERS</b>	17	<b>CONSTRUCTION—SPECIAL TRADE CONTRACTORS—Con.</b>
152	<b>General Building Contractors—Residential Buildings</b>	173	<b>Electrical Work Special Trade Contractors</b>
1521	General Contractors—Single-Family Houses	1731	Electrical Work Special Trade Contractors
1522	General Contractors—Residential Buildings, Other Than Single-Family	174	<b>Masonry, Stone Work Tile Setting, and Plastering Special Trade Contractors</b>
153	<b>Operative Builders</b>	1741	Masonry, Stone Setting, and Other Stone Work Special Trade Contractors
1531	Operative Builders	1742	Plastering, Drywall, Acoustical, and Insulation Work Special Trade Contractors
154	<b>General Building Contractors—Nonresidential Buildings</b>	1743	Terrazzo, Tile, Marble, and Mosaic Work Special Trade Contractors
1541	General Contractors—Industrial Buildings and Warehouses	175	<b>Carpentry and Floor Work Special Trade Contractors</b>
1542	General Contractors—Nonresidential Buildings, Other Than Industrial Buildings and Warehouses	1751	Carpentry Work Special Trade Contractors
		1752	Floor Laying and Other Floor Work Special Trade Contractors, Not Elsewhere Classified
16	<b>HEAVY CONSTRUCTION OTHER THAN BUILDING CONSTRUCTION—CONTRACTORS</b>	176	<b>Roofing, Siding, and Sheet Metal Work Special Trade Contractors</b>
161	<b>Highway and Street Construction, Except Elevated Highways</b>	1761	Roofing, Siding, and Sheet Metal Work Special Trade Contractors
1611	Highway and Street Construction Contractors, Except Elevated Highways	177	<b>Concrete Work Special Trade Contractors</b>
162	<b>Heavy Construction, Except Highway and Street Construction</b>	1771	Concrete Work Special Trade Contractors
1622	Bridge, Tunnel, and Elevated Highway Construction Contractors	178	<b>Water Well Drilling Special Trade Contractors</b>
1623	Water, Sewer, Pipeline, and Communications and Powerline Construction	1781	Water Well Drilling Special Trade Contractors
1629	Heavy Construction, Not Elsewhere Classified	179	<b>Miscellaneous Special Trade Contractors</b>
17	<b>CONSTRUCTION—SPECIAL TRADE CONTRACTORS</b>	1791	Structural Steel Erection Special Trade Contractors
171	<b>Plumbing, Heating, and Air-Conditioning Special Trade Contractors</b>	1793	Glass and Glazing Work Special Trade Contractors
1711	Plumbing, Heating, and Air-Conditioning Special Trade Contractors	1794	Excavation Work Special Trade Contractors
172	<b>Painting and Paper Hanging Special Trade Contractors</b>	1795	Wrecking and Demolition Work Special Trade Contractors
1721	Painting and Paper Hanging Special Trade Contractors	1796	Installation or Erection of Building Equipment, Special Trade Contractors, Not Elsewhere Classified
		1799	Special Trade Contractors, Not Elsewhere Classified
		6552	<b>LAND SUBDIVIDERS AND DEVELOPERS, EXCEPT CEMETERIES</b>



## **APPENDIX C.** **Geographic Divisions and States**

### **NEW ENGLAND STATES**

Connecticut  
Maine  
Massachusetts  
New Hampshire  
Rhode Island  
Vermont

### **MIDDLE ATLANTIC STATES**

New Jersey  
New York  
Pennsylvania

### **EAST NORTH CENTRAL STATES**

Illinois  
Indiana  
Michigan  
Ohio  
Wisconsin

### **WEST NORTH CENTRAL STATES**

Iowa  
Kansas  
Minnesota  
Missouri  
Nebraska  
North Dakota  
South Dakota

### **SOUTH ATLANTIC STATES**

Delaware  
District of Columbia  
Florida  
Georgia  
Maryland

### **SOUTH ATLANTIC STATES—Con.**

North Carolina  
South Carolina  
Virginia  
West Virginia

### **EAST SOUTH CENTRAL STATES**

Alabama  
Kentucky  
Mississippi  
Tennessee

### **WEST SOUTH CENTRAL STATES**

Arkansas  
Louisiana  
Oklahoma  
Texas

### **MOUNTAIN STATES**

Arizona  
Colorado  
Idaho  
Montana  
Nevada  
New Mexico  
Utah  
Wyoming

### **PACIFIC STATES**

Alaska  
California  
Hawaii  
Oregon  
Washington



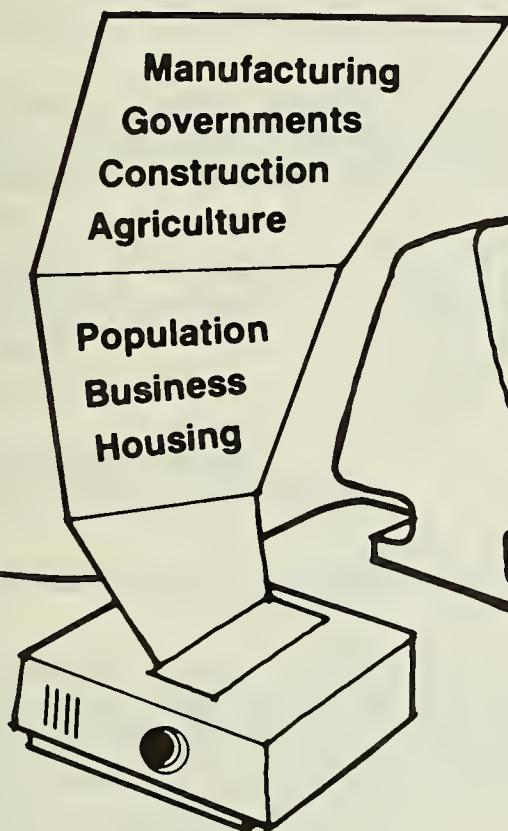
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- Special trade contractors (including plumbers, carpenters, painters, electricians)
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Data products in the Census of Construction Industries are issued in 4 publication series and in 3 other media:

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- CD-ROM [C]
- Computer tape [T]
- Highlights online [+]

### Preliminary Industry Series (CC87-I-1(P) through CC87-I-28(P))

(Available November 1988 through May 1989) [P]

Twenty-seven separate industry reports and a United States summary report, providing national statistics for establishments with payroll. Statistics shown for 1987 include:

- Number of establishments
- Number of employees
- Payroll
- Hours worked
- Value of construction work done, by type of structure
- Selected operating costs

### Final Industry Series (CC87-I-1 through CC87-I-28)

(Available June 1989 through November 1989) [P] [C] [T] [+]

Twenty-seven separate industry reports and a United States summary report, providing statistics for the Nation and individual States on establishments with payroll. These reports update figures from the preliminary industry series (employment, payroll, value of construction, etc.) and provide measures of the following:

- Capital expenditures
- Inventories
- Industry profiles
- Assets
- Depreciation
- And much more

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One report providing selected national statistics for each industry by legal form of organization and type of operation. This report includes data for establishments with and without payroll. Data in this report include—

- Employment
- Payroll
- Value of construction work done
- Selected operating costs

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- Census of Wholesale Trade
- Census of Service Industries
- Census of Transportation
- Census of Manufactures
- Census of Mineral Industries
- Census of Construction

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